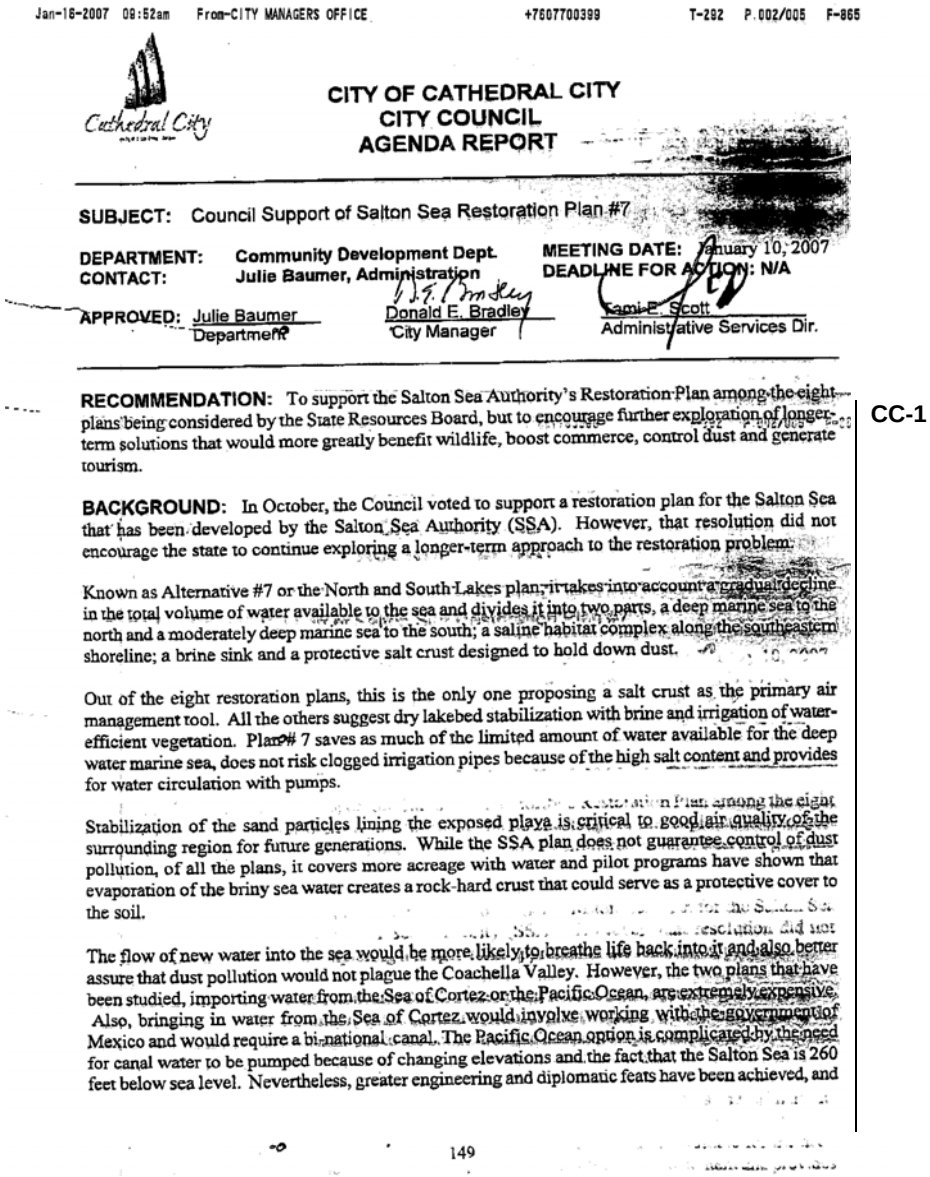
CHAPTER 7
Local Agency Comments

CHAPTER 7
LOCAL AGENCY COMMENTS

This chapter contains copies of the comment letters received from local agencies, as listed in Table 7-1. 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 letters are arranged alphabetically by abbreviation.

Table 7-1
Local Agency Comments Received on the Salton Sea Ecosystem Restoration Program Draft Environmental Impact Report

Abbreviation	Agency	Name
CC	Cathedral City	
CCa	City of Calipatria	Romualdo J. Medina
CIBOS	County of Imperial Board of Supervisors	Larry Grogan
CRTLMA	County of Riverside Transportation and Land Management Agency	Kathleen Browne
CVMVCD	Coachella Valley Mosquito and Vector Control District	Donald Gomsi
ICAPCD	Imperial County Air Pollution Control District	Stephen L. Birdsall
ICPDS	Imperial County Planning and Development Services	Darrell Gardner
IID	Imperial Irrigation District	Ellen B. Spellman
MWDSC	Metropolitan Water District of Southern California	Delaine W. Shane
SCAQMD	South Coast Air Quality Management District	Steve Smith
SDCWA	San Diego County Water Authority	Laurence Purcell
SSA	Salton Sea Authority	Rick Daniels



Jan-16-2007 09:52am From-CITY MANAGERS OFFICE +7607700399 T-292 P.002/005 F-865

CITY OF CATHEDRAL CITY
CITY COUNCIL
AGENDA REPORT

SUBJECT: Council Support of Salton Sea Restoration Plan #7

DEPARTMENT: Community Development Dept.
CONTACT: Julie Baumer, Administration
MEETING DATE: January 10, 2007
DEADLINE FOR ACTION: N/A

APPROVED: Julie Baumer, Department; Donald E. Bradley, City Manager; Tami E. Scott, Administrative Services Dir.

RECOMMENDATION: To support the Salton Sea Authority's Restoration Plan among the eight plans being considered by the State Resources Board, but to encourage further exploration of longer-term solutions that would more greatly benefit wildlife, boost commerce, control dust and generate tourism.

BACKGROUND: In October, the Council voted to support a restoration plan for the Salton Sea that has been developed by the Salton Sea Authority (SSA). However, that resolution did not encourage the state to continue exploring a longer-term approach to the restoration problem.

Known as Alternative #7 or the North and South Lakes plan, it takes into account a gradual decline in the total volume of water available to the sea and divides it into two parts, a deep marine sea to the north and a moderately deep marine sea to the south; a saline habitat complex along the southeastern shoreline; a brine sink and a protective salt crust designed to hold down dust.

Out of the eight restoration plans, this is the only one proposing a salt crust as the primary air management tool. All the others suggest dry lakebed stabilization with brine and irrigation of water-efficient vegetation. Plan #7 saves as much of the limited amount of water available for the deep water marine sea, does not risk clogged irrigation pipes because of the high salt content and provides for water circulation with pumps.

Stabilization of the sand particles lining the exposed playa is critical to good air quality of the surrounding region for future generations. While the SSA plan does not guarantee control of dust pollution, of all the plans, it covers more acreage with water and pilot programs have shown that evaporation of the briny sea water creates a rock-hard crust that could serve as a protective cover to the soil.

The flow of new water into the sea would be more likely to breathe life back into it and also better assure that dust pollution would not plague the Coachella Valley. However, the two plans that have been studied, importing water from the Sea of Cortez or the Pacific Ocean, are extremely expensive. Also, bringing in water from the Sea of Cortez would involve working with the government of Mexico and would require a bi-national canal. The Pacific Ocean option is complicated by the need for canal water to be pumped because of changing elevations and the fact that the Salton Sea is 260 feet below sea level. Nevertheless, greater engineering and diplomatic feats have been achieved, and

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CC-1

Cathedral City (CC)

CC-1

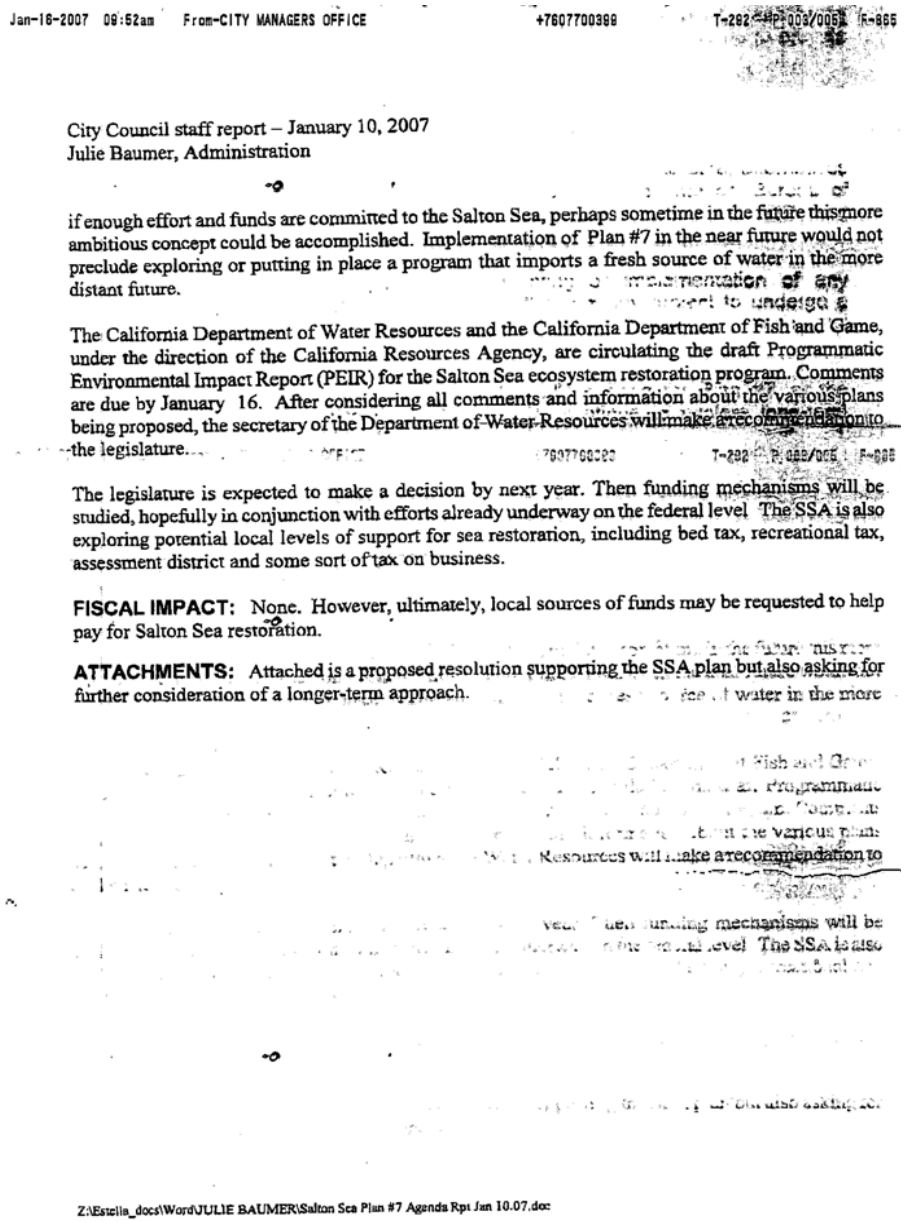
The comment does not raise any concerns or questions specific to the State's Salton Sea Ecosystem Restoration Program Draft PEIR. However, as described in Chapter 3 of this Final PEIR, the Preferred Alternative recommended by the Secretary for Resources includes a variety of components that are intended to meet the legislative mandates of providing the maximum feasible attainment of the following objectives:

- 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;
- Elimination of air quality impacts from the restoration project; and
- Protection of water quality.

Specifically, the Preferred Alternative includes 62,000 acres of Saline Habitat Complex, a 45,000-acre Marine Sea, incorporates the air quality "tool box" measures to eliminate, to the extent feasible, air quality impacts from the restoration project, and includes other measures and design considerations that would work to protect water quality. Under the Preferred Alternative, Air Quality Management, and the Saline Habitat Complex would have the highest priority for inflows, followed by inflows into the Marine Sea.

The 62,000-acre Saline Habitat Complex included in the Preferred Alternative would be located in the southern and northern portion of the Salton Sea and would provide habitat for a variety of avian species, including shorebirds, waterfowl, and potentially for fish-eating birds, including sensitive species currently found at the Salton Sea. It is expected that the Saline Habitat Complex would also provide limited habitat for some fish species, such as tilapia, and thus, provide foraging habitat for fish-eating birds. The Saline Habitat Complex is expected to provide the microclimate benefits that currently exist at the Salton Sea, and could be constructed using a variety of construction methods including Geotubes®.

The 45,000-acre Marine Sea included in the Preferred Alternative would be located primarily in the northern portion of the Sea, but would extend down the majority of the eastern and western shorelines. It is intended to support a marine fishery and fish-eating birds (such as pelicans, double-crested cormorants, and black skimmers). The Marine Sea would stabilize at a water surface elevation of -230 feet msl with a salinity between 30,000 mg/L and 40,000 mg/L. The water depth would be less than 10 to 12 meters (39 feet) to reduce hydrogen sulfide generation and potential fish kills due to long-term temperature stratification (temperature variations from top to bottom of the sea).



Jan-16-2007 09:52am From-CITY MANAGERS OFFICE +7607700398 T-292 P.002/005 F-885

City Council staff report – January 10, 2007
Julie Baumer, Administration

if enough effort and funds are committed to the Salton Sea, perhaps sometime in the future thismore ambitious concept could be accomplished. Implementation of Plan #7 in the near future would not preclude exploring or putting in place a program that imports a fresh source of water in the more distant future.

The California Department of Water Resources and the California Department of Fish and Game, under the direction of the California Resources Agency, are circulating the draft Programmatic Environmental Impact Report (PEIR) for the Salton Sea ecosystem restoration program. Comments are due by January 16. After considering all comments and information about the various plans being proposed, the secretary of the Department of Water Resources will make a recommendation to the legislature.

The legislature is expected to make a decision by next year. Then funding mechanisms will be studied, hopefully in conjunction with efforts already underway on the federal level. The SSA is also exploring potential local levels of support for sea restoration, including bed tax, recreational tax, assessment district and some sort of tax on business.

FISCAL IMPACT: None. However, ultimately, local sources of funds may be requested to help pay for Salton Sea restoration.

ATTACHMENTS: Attached is a proposed resolution supporting the SSA plan but also asking for further consideration of a longer-term approach.

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CC (cont.)

CC-1

CC-1 cont.

The Preferred Alternative incorporates the air quality "tool box" measures to eliminate, to the extent feasible, air quality impacts from the restoration project. These measures include the allocation of 0.5 acre-foot per acre of water to manage emissive areas of the Exposed Playa. The Preferred Alternative also includes actions and mitigation measures to reduce air quality impacts that could result from construction and operations and maintenance activities.

Although not a legislatively mandated objective, the Saline Habitat Complex is expected to allow for passive recreational opportunities, such as bird watching. Additionally, the Marine Sea would provide for water-based recreational opportunities that have historically occurred at the Salton Sea. This would include boating and fishing opportunities and allow for the ongoing operation of the majority of the existing harbors at the Salton Sea.

The Preferred Alternative also includes a variety of actions that could be implemented within the 5-year timeframe, assuming the legislature provides direction to pursue implementation and identifies a future implementing agency. These actions include activities such as Early Start Habitat and measures targeted to address air quality uncertainties.

See Chapter 3 of this Final PEIR for a more detailed description of the Preferred Alternative.

CC (cont.)

Jan-16-2007 09:52am From-CITY MANAGERS OFFICE +7607700398 T-292 P.004/005 F-865

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CATHEDRAL CITY, CALIFORNIA, SUPPORTING THE SALTON SEA AUTHORITY PLAN #7 FOR ECOSYSTEM RESTORATION AND ENCOURAGING THE STATE TO CONTINUE EXPLORING LONGER-TERM SOLUTIONS FOR IMPORTING ADDITIONAL WATER

THE CITY COUNCIL OF THE CITY OF CATHEDRAL CITY DOES HEREBY RESOLVE AS FOLLOWS:

WHEREAS, the Salton Sea Authority is a Joint Powers Agency formed under the laws of the State of California by a Joint Powers Agreement dated 1993, and is the regional agency for identifying and implementing corrective measures to preserve the beneficial uses of the Sea; and

WHEREAS, the Salton Sea Authority has conducted extensive research and scientific investigation of the Salton Sea and has studied numerous alternative measures to restore and revitalize the Sea; and

WHEREAS, on June 29, 2006, the Board of Directors of the Salton Sea Authority voted unanimously to adopt the Executive Summary of the Salton Sea Authority Conceptual Plan; and

WHEREAS, the City of Cathedral City finds that of eight plans being promulgated, the Salton Sea Authority Plan #7 best meets the needs to provide wildlife habitats, improve water quality, and protect air quality in our region; and

WHEREAS, the Salton Sea Plan also creates major recreational and economic development opportunities in the Coachella and Imperial Valleys; and

WHEREAS, the Salton Sea Authority Plan is superior to other alternatives that the State of California and The U.S. Department of Interior, Bureau of Reclamation are considering during their current programmatic EIR and alternative study; and

WHEREAS, prior to the formal adopting or implementation of any restoration plan, the Salton Sea Authority will cause any project to undergo a thorough and environmental analysis pursuant to the California Environmental Quality Act.

WHEREAS, not withstanding the Council's support for Plan #7, at the present time, Council encourages the State to continue to explore long-term solutions that import additional water to the Sea.

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CC (cont.)

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Cathedral City as follows:

1. The City of Cathedral City hereby supports the "Salton Sea Authority Conceptual Plan for the Multi-Purpose Project" as the current preferred plan for restoration and revitalization of the Salton Sea; and

2. The City of Cathedral City encourages the State of California and the Department of Interior to select the Salton Sea Authority Conceptual Plan as their preferred alternative for Salton Sea restoration and revitalization; and

3. The City of Cathedral City encourages the State to continue exploring longer-term solutions to bring additional water to the sea.

PASSED, APPROVED and ADOPTED by

_____ **this 10th day of January, 2007.**

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City of Calipatria

JAN 2 2 2007

125 North Park Avenue
Calipatria, California 92233
Telephone: (760) 348-4141
Fax: (760) 348-7035

January 16, 2007

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

Dear Mr. Hoffman-Floerke,

The City of Calipatria appreciates the opportunity to submit comments to the State of California Department of Water Resources in response to the Programmatic Environmental Impact Report (PEIR) completed for the Salton Sea Ecosystem Restoration Program.

The City Council of the City of Calipatria respectfully submits Resolution # 07-02 passed, approved and adopted by the City Council during the regular Council Meeting on January 9, 2007 (attached). Comments expressed at the Council Meeting by the Majority of the Council adhere to the project description and objectives. The Concentric Lakes Alternative # 4, addresses the project description and objectives, in a more effective and cost efficient manner as described in the PEIR.

Thank you for the opportunity to submit comments, ;if you have any questions, please contact Jesse Soriano, City Planner, or myself at Calipatria City Hall.

Respectfully Submitted,

Romualdo J. Medina
City Manager

Cc: Calipatria City Council
Jesse Soriano, City Planner
Catherine Hoff, City Clerk
William Smerdon, City Attorney

CCa-1

City of Calipatria (CCa)

CCa-1

The comment does not raise any concerns or questions specific to the State's Salton Sea Ecosystem Restoration Program Draft PEIR. However, as described in Chapter 3 of this Final PEIR, the Preferred Alternative recommended by the Secretary for Resources includes a variety of components that are intended to meet the legislative mandates of providing the maximum feasible attainment of the following objectives:

- 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;
- Elimination of air quality impacts from the restoration project; and
- Protection of water quality.

Specifically, the Preferred Alternative includes 62,000 acres of Saline Habitat Complex, a 45,000-acre Marine Sea, incorporates the air quality "tool box" measures to eliminate, to the extent feasible, air quality impacts from the restoration project, and includes other measures and design considerations that would work to protect water quality. Under the Preferred Alternative, Air Quality Management and the Saline Habitat Complex would have the highest priority for inflows, followed by inflows into the Marine Sea.

The 62,000-acre Saline Habitat Complex included in the Preferred Alternative would be located in the southern and northern portion of the Salton Sea and would provide habitat for a variety of avian species, including shorebirds, waterfowl, and potentially for fish-eating birds, including sensitive species currently found at the Salton Sea. It is expected that the Saline Habitat Complex would also provide limited habitat for some fish species, such as tilapia, and thus, provide foraging habitat for fish-eating birds. The Saline Habitat Complex is expected to provide the microclimate benefits that currently exist at the Salton Sea, and could be constructed using a variety of construction methods including Geotubes®.

The 45,000-acre Marine Sea included in the Preferred Alternative would be located primarily in the northern portion of the Sea, but would extend down the majority of the eastern and western shorelines. It is intended to support a marine fishery and fish-eating birds (such as pelicans, double-crested cormorants, and black skimmers). The Marine Sea would stabilize at a water surface elevation of -230 feet msl with a salinity between 30,000 mg/L and 40,000 mg/L. The water depth would be less than 10 to 12 meters (39 feet) to reduce hydrogen sulfide generation and potential fish kills due to long-term temperature stratification (temperature variations from top to bottom of the sea).

CCa (cont.)

CCa-1 cont.

The Preferred Alternative incorporates the air quality "tool box" measures to eliminate, to the extent feasible, air quality impacts from the restoration project. These measures include the allocation of 0.5 acre-foot per acre of water to manage emissive areas of the Exposed Playa. The Preferred Alternative also includes actions and mitigation measures to reduce air quality impacts that could result from construction and operations and maintenance activities.

Although not a legislatively mandated objective, the Saline Habitat Complex is expected to allow for passive recreational opportunities, such as bird watching. Additionally, the Marine Sea would provide for water-based recreational opportunities that have historically occurred at the Salton Sea. This would include boating and fishing opportunities and allow for the ongoing operation of the majority of the existing harbors at the Salton Sea.

The Preferred Alternative also includes a variety of actions that could be implemented within the 5-year timeframe, assuming the legislature provides direction to pursue implementation and identifies a future implementing agency. These actions include activities such as Early Start Habitat and measures targeted to address air quality uncertainties.

See Chapter 3 of this Final PEIR for a more detailed description of the Preferred Alternative.

JAN 2 2 2007

CCa (cont.)

RESOLUTION 07-02

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CALIPATRIA IN RESPONSE TO THE DRAFT ENVIRONMENTAL REPORT

WHEREAS, the City of Calipatria finds that the **Concentric Lakes (Alt 4)** best meets the needs to provide wildlife habitats, improve water quality, and protect air quality in our region; *and*

WHEREAS, the **Concentric Lakes (Alt 4)** also creates major recreational and economic development opportunities in the Coachella and Imperial Valleys; *and*

WHEREAS, the **Concentric Lakes (Alt 4)** best meets the needs of the City of Calipatria, its constituents, and those living and working in the Coachella and Imperial Valleys; *and*

WHEREAS, prior to the formal adopting or implementation of any restoration plan, the State of California, Department of Water Resources will cause any project to undergo a thorough and environmental analysis pursuant to the California Environmental Quality Act.

NOW, THEREFORE BE IT RESOLVED by the city council of the City of Calipatria as follows:

1. City of Calipatria hereby supports the **Concentric Lakes (Alt 4)** for Multi-Purpose Project as the preferred plan for restoration and revitalization of the Salton Sea; *and*
2. City of Calipatria encourages the State of California and the Department of Interior to select the **Concentric Lakes (Alt 4)** as their preferred alternative for Salton Sea restoration and revitalization; *and*
3. City of Calipatria encourages cities and counties and other entities to join with it in support of the **Concentric Lakes (Alt 4)**.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the City Council of the City of Calipatria held on the 9th day of January 2007 by the following vote:

JAN 2 2 2007

CCa (cont.)

AYES: Nelson, Beltran, Vasquez, Navarro

NOES: None

ABSENT: O'Malley

ABSTAIN: None

ATTEST:

I, Catherine Hoff, City Clerk of the City of Calipatria, hereby certify the above and foregoing to be a full, true and correct copy of Resolution 07-02 adopted by said City Council on this 9th day of January 2007

Raul Navarro, Mayor

Catherine Hoff, City Clerk

Res0702

2/2

DISTRICT 1
VICTOR M. CARRILLO
940 MAIN STREET, SUITE 209, EL CENTRO, CA. 92243

DISTRICT 2
LARRY GROGAN
940 MAIN STREET, SUITE 209,EL CENTRO, CA. 92243

DISTRICT 3
JOE MARUCA
940 MAIN STREET, SUITE 209, EL CENTRO, CA. 92243

DISTRICT 4
GARY WYATT
940 MAIN STREET, SUITE 209, EL CENTRO, CA. 92243

DISTRICT 5
WALLY LEIMGRUBER
940 MAIN STREET, SUITE 209, EL CENTRO, CA. 92243

Board of Supervisors
County of Imperial

COUNTY EXECUTIVE OFFICE
COUNTY ADMINISTRATION CENTER
940 MAIN STREET, SUITE 209
EL CENTRO, CA 92243-2871
TELEPHONE: (760) 482-4290
FAX: (760) 482-4215

January 16, 2007

Certified Mail 7003-2260-0003-7209-6595 &
Email (saltonseacomments@water.ca.gov)

Dale Hoffman-Floerke
Department of Water Resources
Colorado River and Salton Sea Office
P.O. Box 942836
Sacramento, CA 94236-0001

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

The Imperial County Board of Supervisors appreciate the efforts by the California Department of Water Resources and the Department of Fish and Game, under the direction of the California Resources Agency, to solicit public comments on the Salton Sea Ecosystem Restoration Program Draft Programmatic Environmental Impact Report.

Please accept this letter as the Imperial County Board of Supervisor's comments regarding this extremely important matter. The restoration and revitalization of the Salton Sea is of vital significance to the future health of our residents and economic vitality of our County. We are sure you are aware that Imperial County has traditionally been one of the most economically disadvantaged in the State.

First and foremost, we are concerned with unintended consequences of the differences between assumptions regarding future inflows to the Salton Sea. The Quantification Settlement Agreement forecasts inflows to the Salton Sea of 960,000 AFY after all water transfers are fully implemented. The State, in the DPEIR, is using an inflow assumption of 717,000 AFY. Although we feel the 960,000 AFY amount was accurate,

CIBOS-1

County of Imperial Board of Supervisors (CIBOS)

CIBOS-1

As described in Appendix H-2 of the Draft PEIR, the 717,000 acre-feet inflow was used in the analysis of all alternatives to allow for comparison of the alternatives. This inflow amount was selected in cooperation with the Inflows Working Group and was based on the best available data and technical information. This inflow amount was intended to minimize the risk of failure of an alternative to meet its habitat, air quality, and water quality goals that could result with an inadequate water supply. It would be appropriate to conduct a reevaluation of future inflows to the Salton Sea that includes the most current flow data during project-level analysis. The Draft PEIR inflow analysis does not include new water transfers.

Dale Hoffman-Floerke
CA Dept. of Water Resources
January 16, 2007

our Board has stated in previous actions that we would agree to inflow assumptions of no less than 800,000 AFY for a Salton Sea restoration project. We contend that agreeing to the 717,000 assumption would open the Imperial County up to the potential of future water transfers that would further destroy the Salton Sea's ecosystem, adversely impact air quality in this region, devastate the communities in the vicinity of the Salton Sea and create an intolerable environmental justice situation in Imperial County.

Already the Metropolitan Water District of Southern California has two applications in place to divert agricultural water from the New and Alamo rivers. Additionally, there are groups in the Imperial Valley seeking to sell additional water but fear the impact of such action because of the effect and liability of such action on the Salton Sea.

We are also concerned with the substantial impact most of the plans will have on the low to moderate income residents in the Riverside and Imperial Counties' communities. As you note in Chapter 22 of the DPEIR (Page 22-1), Government Code Section 65040.12 and Public Resources Code Section 72000 defines Environmental Justice as "the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation and enforcement of environmental laws, regulations and policies." Furthermore, you also note in the DPEIR that the intent of Resource Agency Environmental Justice policies includes ensuring that minority and low income populations are not "caused to experience disproportionately high and adverse health or environmental effects from environmental decisions."

Therefore, in accordance with the stated intent of the above noted Environmental Justice provisions, our Board expects residents of Salton Sea area communities to remain whole in the value of their homes, businesses and other real property. Furthermore, if there is adverse impact in those communities from the State's Salton Sea restoration decision, we expect the State to cover their losses.

In Chapter 21, Power Production and Energy: Figure 21-2 shows Geothermal KGRAs are adequate for general information. However, we request an additional exhibit of the Geothermal Resources area within the Salton Sea. Cal-Energy has maps of the commercial areas that are capable of power plant production. It is important that these areas be planned for commercial development if California is to meet its "green" energy benchmarks. It would not be a prudent use of taxpayer funds to create an environment that would preclude development of this valuable resource.

Page 9.2 of Chapter 2 defines the standards by which dam structures come under supervision of the Division of Safety of Dams. Under these provisions, we request clarification that the Concentric Rings plan (Alternative 3) would fall under this provision (as would other alternatives that would have dams) as inflows at or above the 717,000 or 800,000 AFY total would result in more than 15 acre feet of water in the areas confined by the dams.

Page 2 of 3

CIBOS (cont.)

CIBOS-1 cont.

CIBOS-2

The Resources Agency is aware of the applications filed by the Metropolitan Water District of Southern California on the New and Alamo rivers and the interest of other groups in the Imperial Valley to sell additional water. These actions are speculative at this time and outside of the scope of the Draft PEIR.

CIBOS-2

CIBOS-3

Although not required under CEQA, the Draft PEIR addresses Environmental Justice in Chapter 22 "Economic and Social Effects." As stated in Chapter 22 of the Draft PEIR, the Resources Agency has established a policy that fair treatment of people of all races, cultures, and incomes shall be fully considered during the planning, decision-making, development, and implementation of all Resources Agency programs, policies, and activities. The commenter has incorrectly characterized the intent of the Resources Agency policy with regard to financial compensation.

CIBOS-3

CIBOS-4

It is unclear what map is being referenced by the commenter. However, the Resources Agency understands the importance of development of geothermal energy resources in helping California meet its alternative energy goals. As described in Chapter 3 of this Final PEIR, the Preferred Alternative includes an area designated for geothermal development and additional coordination with the geothermal interests. The map requested by the commenter would be more appropriately included in the project-level analysis when additional information on potential future geothermal development actions is known and additional coordination with the geothermal industry has occurred.

CIBOS-4

CIBOS-5

Page 9-2 of Chapter 9 (not Chapter 2) of the Draft PEIR provides the definition of a dam and its jurisdictional status as defined by the California Department of Water Resources, Division of Safety of Dams (DSOD). This is graphically illustrated in Figure H4-3 in Appendix H-4, page H4-16. Based on the anticipated dam height and storage capacity, Alternative 3 (Concentric Rings) would fall under DSOD jurisdiction.

CIBOS-5

Dale Hoffman-Floerke
CA Dept. of Water Resources
January 16, 2007

Finally, this Board is on record as supporting the Salton Sea Authority's plan for restoration of the Salton Sea (Alternative 7). We realize there may be some reasonable modifications to the plans outlined in this DPEIR as a result of these comments, but any plan that results in a series of "mud puddles" for fishing and recreation—mud puddles that create visual blight, economic distress to Sea communities or further damage to the region's air quality---will be actively opposed by this Board. This includes the so-called "hybrid plan" that would incorporate the Concentric Rings Alternative with a very small lake to the North fed by the Whitewater River.

CIBOS-6

If you have any questions or comments, please feel free to contact me at (760) 482-4306 or by email at larrygrogan@imperialcounty.net.

Sincerely,

LARRY GROGAN
Chairman of the Board of Supervisors

CC: Robertta Burns, County Executive Officer
Ralph Cordova, County Counsel
Joanne Yeager, Assistant County Counsel
Jurg Heuberger, Planning & Development Services Director
Board of Supervisors
William Brunet, Public Works Director
Stephen L. Birdsall, Agricultural Commissioner/APCO
Mark Johnston, EHS/Health Department
Fred Nippins, Fire/OES
Michael King, Water, Imperial Irrigation District
Robert Perdue, Executive Officer, RWQCB, Region 7
Rick Daniels, Executive Director, Salton Sea Authority
Daniel N. Schochet, Vice-President, ORMAT Nevada
Vicki Woods, Field Manager, BLM/El Centro Resource Office
Vincent Signorotti, Vice-President, Land Manager/ Cal Energy
US Fish & Wildlife Services, Calipatria Office
CA State Dept. of Water Resources File
CA State Dept. of Fish and Game File
SS Ecosystem Restoration Draft PEIR File
File 10.100, 10.105, 10.124, 10.130, 10.133, 10.134, 10.142, 10.150, 10.331, 40.110

ID/S./Salton Sea/Restoration DEIR 10 24 06/Board Comments 011607

Page 3 of 3

CIBOS (cont.)

CIBOS-6

As described in Chapter 3 of this Final PEIR, the Preferred Alternative recommended by the Secretary for Resources includes a variety of components that are intended to meet the legislative mandates of providing the maximum feasible attainment of the following objectives:

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CIBOS (cont.)

CIBOS-6 cont.

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The Preferred Alternative also includes a variety of actions that could be implemented within the 5-year timeframe after the Legislature provides direction to pursue implementation and identifies a future implementing agency. These actions include activities such as Early Start Habitat and measures targeted to address air quality uncertainties.

See Chapter 3 of this Final PEIR for a more detailed description of the Preferred Alternative.

County of Riverside Transportation and Land Management Agency (CRTLMA)

COUNTY OF RIVERSIDE

TRANSPORTATION AND LAND MANAGEMENT AGENCY

Tony Carstens · Agency Director

Planning Department

Ron Goldman · Interim Planning Director

JAN 2 2 2007

January 16, 2007

Dale Hoffman-Floerke
Salton Sea PEIR Comments
Department of Water Resources
Colorado River and Salton Sea Office
1416 Ninth Street, Room 1148-6
Sacramento, CA 95814

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

Dear Mr. Hoffman-Floerke,

Thank you for providing the County of Riverside Planning Department the opportunity to review and comment on the Draft Programmatic Environmental Impact Report (PEIR) for the Salton Sea Ecosystem Restoration Program (hereafter "Project").

Background:

The Salton Sea Ecosystem is one of the most important wetlands for birds in North America and supports some of the highest levels of avian biodiversity in the southwestern United States. The Salton Sea provides habitat for both resident and migratory birds which include a number of threatened, endangered, and species of concern. Historically, the Salton Sea also presented an abundant source for recreational marine sport fishing until increasing salinity levels and declining water quality resulted in eliminating the marine fish species. Presently, further exacerbating the water quality issues, are the diminishing inflows from the Colorado River as a result of apportionment of adjudicated water rights of users of Colorado River water (Quantification Settlement Agreement (QSA)).

The importance of the Salton Sea Ecosystem and its connection as part of a larger ecosystem and socio-economic region is recognized under State and federal law. Legislation has been passed to restore the Salton Sea Ecosystem and to protect surrounding economic and social (i.e., recreational, aesthetic, scientific, commercial) values of wildlife. The legislation requires implementation of conservation measures necessary to protect fish and wildlife dependent on the Sea, but includes the Salton Sea, lower Colorado River and Colorado River Delta in the conservation area. The Legislature included the term "ecosystem" intentionally, to ensure that restoration planning did not address the Sea in isolation since many of the species dependent on the Sea also rely on the surrounding agricultural land and many of the activities in areas surrounding the Sea affect the habitat value of the Sea itself.

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Environmental Review:

As mandated, the California Resources Agency commenced a study and developed alternatives for implementing the Project consist with guidelines set by legislation. The Draft PEIR defines the Study Area to include the Salton Sea, surrounding agricultural lands and tributaries and drains within the Imperial and Coachella valleys which feed into the lake. Eight alternatives, incorporating partial sea and shallow saline habitat concepts, are presented in the Draft PEIR for the reviewer's evaluation and comparison. The purpose of evaluating the alternatives is not to determine an environmentally superior project but to select a "preferred alternative" for restoration of the Salton Sea Ecosystem and permanent protection of wildlife dependent on that ecosystem. The primary objectives of the "preferred alternative" are to:

- Restore long-term aquatic and shoreline habitat
- Eliminate air quality impacts resulting from restoration
- Protect water quality

Each alternative is described and compared to existing conditions as a basis for analysis. Additionally, two No Action Alternative scenarios are presented and described as:

- N/A – CEQA alternative, which is based on existing conditions without the project projected over a 75-year period and considers projects previously defined in environmental documentation by other agencies/jurisdictions (i.e., implementation of the QSA, reductions in inflows from Mexico, groundwater management activities in the Coachella Valley, etc.); and,

- N/A – Variable Conditions alternative, which is also based on existing conditions without the project but considers a wider range of variables such as a conservative projection of changes in inflows over a 75-year period (i.e., changes in agricultural practices, further reductions of inflows from Mexico, delayed implementation of groundwater management in the Coachella Valley, etc.).

The partial sea and shallow saline habitat concepts are further broken into project components which at some level will help to achieve the objectives of the Project. All eight alternatives include one or more of the following components:

1. Saline Habitat Complex (cells with water depth less than six feet)
2. Deep Marine Sea (water depth could exceed 50 feet, habitat would be similar to historic conditions)
3. Moderately Deep Marine Sea (water depth could extend to 10 feet)
4. Air Quality Management (combination of exposed playa, utilization of water efficient vegetation or brine stabilization)
5. Desert Pupfish Connectivity (included in all alternatives)
6. Brine Sink (included in all alternatives)
7. Freshwater Reservoir (included in one alternative)

Due to the nature of the Draft PEIR, Planning staff's comments are restricted to impacts which may result from implementation of an alternative and the adequacy of proposed mitigation measures:

1. Under each alternative, the Draft PEIR should clearly identify to what extend habitat restoration meets the objectives of the guidelines established by State and federal law. For example, if the deep marine sea concept is included in an alternative, does it

CRTLMA-1

CRTLMA (cont.)

CRTLMA-1

While it is unclear what guidelines the commenter is referring to, 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: (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 projects. (3) Protection of water quality." All of the alternatives meet the legislative objectives to varying degrees.

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actually benefit the Lake's ecosystem by maintaining fish levels? There appears to be some question as to water depth and fish sustainability. **CRTLMA-1 cont.**

2. Prior to implementation of any alternative, it seems prudent that a comprehensive air quality management plan should be developed which specifically addresses fugitive dust impacts during construction and operation of the restoration. What the Draft PEIR includes is largely based on future studies and/or monitoring which is not considered adequate mitigation under CEQA. Effective air quality mitigation measures and implementation along with associated costs should be identified in the Draft PEIR since eliminating air quality impacts is one of the primary objectives of the Project. This comprehensive plan could serve as an umbrella for mitigating air quality impacts resulting from subsequent projects. **CRTLMA-2**

3. The Draft PEIR does not adequately evaluate growth-inducing impacts resulting from the restoration of such a significant recreational resource. The proposed recreational opportunities (i.e., boating, water skiing, bird watching, hiking, hunting, biking, swimming, camping, fishing and other day use activities) under the alternatives will create the need to provide proximate appurtenant and supporting facilities. This eco-tourism will result in economic growth and revitalization of surrounding areas and needs to be considered in the analysis. **CRTLMA-3**

4. All alternatives proposed under the Project involve diluting the existing sea water to reduce salinity levels. The Brine Sink will collect the salt concentrations until it becomes necessary to manually dispose of said concentrations. The Draft PEIR needs to address the disposal method and location. **CRTLMA-4**

5. Much of the Lake's shoreline is currently protected through local habitat plans and/or by State and federal authorities. The Draft PEIR should identify that although some areas are privately owned, development may not be feasible due to these plans and/or land use constraints (i.e., 100-year flood hazard zone, Alquist-Priolo Special Studies Fault Zone, etc.). **CRTLMA-5**

6. Under Land Use, the Draft PEIR should address Riverside County's Land Use Designations. Specifically, a large part of land uses in the Oasis area are designated as Community Development. These uses could presumably benefit from, or be impacted by, the Salton Sea alternatives. Also, in the North Shore area, the document needs to address that restoration of the Lake could potentially lead to development of the area. Impacts of this development, beneficial or otherwise, need to be fully evaluated in the Draft PEIR. **CRTLMA-6**

7. Additionally, the Riverside County General Plan identifies several scenic highways and a number of Class I Bike Paths/Regional Trails in proximity of the Lake. Impacts resulting from restoration, construction and operation, needs to be addressed and mitigated under Aesthetics and Recreational Resources. **CRTLMA-7**

8. The Draft PEIR should clearly identify and evaluate the impacts of motorized boats on resident and migratory fowl. **CRTLMA-8**

9. The EIR identifies that a project-level traffic study will be conducted in the future, probably at the time one alternative is selected, which is appropriate. We recommend that that the following be included in the "Next Steps" section in Chapter 20-21:

CRTLMA (cont.)

CRTLMA-2

The Draft PEIR includes significant detail and costs for controlling dust emissions from Exposed Playa, as well as from construction and other operational sources. However, it is not possible to predict the use or effectiveness of specific dust control measures or methods without additional research. Therefore, the Draft PEIR took a conservative approach to predicting possible dust emissions and presented a "toolbox" of dust control options that could be used. The overall air quality management approach focused on program flexibility, which enables refinement of approaches as new information becomes available, and allows selection of appropriate methods that have been proven effective for dealing with the predicted emissions and emission sources. More detailed air quality management approaches would be part of subsequent project-level analysis.

CRTLMA-3

The potential growth inducing effects of the alternatives were described in Chapter 24 of the Draft PEIR. Due to the programmatic nature of the Draft PEIR, the analysis of most resources, including growth inducing impacts, was conducted at a programmatic, or broad level. A more detailed growth inducing analysis would be appropriately conducted during future project-level analysis.

CRTLMA-4

It is anticipated that the Brine Sink would act as a repository for excess salts, and no manual disposal is proposed.

CRTLMA-5

The Draft PEIR recognizes current landownership in Chapter 3 and also recognizes current habitat plans in Chapter 11. Additional analysis of the location and compatibility of project facilities with habitat plans would be appropriately addressed during project-level analysis.

CRTLMA-6

Land uses in Riverside County were discussed in Chapter 11 of the Draft PEIR. The Draft PEIR assumed build-out of the existing General Plan and Area Plans under the No Action Alternative. Thus, development of these areas, as it is described in these adopted land use plans, was assumed to occur regardless of the implementation of the Salton Sea Ecosystem Restoration Program. Development beyond that envisioned in the current General Plan is under the jurisdiction of the local land use planning entity and is outside of the scope of the Draft PEIR.

CRTLMA (cont.)

CRTLMA-7

The Draft PEIR evaluated scenic highways in Chapter 18, “Aesthetic and Visual Resources” and determined that no scenic highways existed in the immediate area of the Salton Sea. Highway 111 from Bombay Beach north to State Highway 195 near Mecca and State Highway 78 west of the intersection with State Highway 86 are classified as eligible routes but have not been submitted to the state for Scenic Highway status. Due to the programmatic nature of the Draft PEIR, bike ways/regional trails and other related recreational uses were not evaluated. Any potential impacts to these facilities would be more appropriately evaluated during the project-level analysis when specific facility locations are known.

CRTLMA-8

While the Resources Agency recognizes that motorized boats can affect resident and migratory birds, the analysis requested by the commenter would be more appropriately conducted during project-level analysis when more detailed information on the level of recreation uses would be available.

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a. That the future Traffic Study identify not only needed capacity improvements based on level of service, but also any needed safety and operational improvements (such as turn lanes and pavement widening to provide adequate truck turning radii) to accommodate the construction traffic once the locations of the borrow sites are known. **CRTLMA-9**

b. That a before-and-after pavement study be conducted of the County roads that will carry the truck traffic, and that the project be required to bond for and construct any pavement repairs caused by the extensive truck traffic. **CRTLMA-10**

c. That a Traffic Management Plan be prepared that can be reviewed and approved by the County and other impacted jurisdictions which will address construction traffic routing, needed levels of traffic control, and the other measures identified in this section. **CRTLMA-11**

Riverside County is in support of an alternative that minimizes exposed playa in the north sea and would thereby minimize air quality impacts to the residents of Riverside County. **CRTLMA-12**

Riverside County is in full support of the Salton Sea Authority's Plan for the Salton Sea Restoration Project, included in the PEIR as Alternative 7. Riverside County believes that the Secretary for Resources is obligated to choose a plan that results in a robust sea that maximizes not only wildlife habitat, water quality improvements and air quality, but also opportunities for recreation and economic development. We believe that Alternative 7 meets these objectives more fully than any other alternative presented in the PEIR. **CRTLMA-13**

If you should have any questions regarding these comments, please contact Kathleen Browne at (951) 955-4949.

Sincerely,

RIVERSIDE COUNTY PLANNING DEPARTMENT
Ron Goldman, Interim Planning Director

Kathleen Browne, Special Projects

cc: Supervisor Roy Wilson, 1st District
Tony Carstens, TLMA Director
Dan Martinez, Deputy County Executive Office
Ron Goldman, Interim Planning Director
Jerry Jolliffe, Deputy Planning Director

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CRTLMA (cont.)

CRTLMA-9

The Resources Agency agrees that a Traffic Study, Pavement Study, and Traffic Management Plan, would be appropriate prior to any future implementation of the Preferred Alternative. The Next Steps in Chapter 20 of the Draft PEIR have been modified to incorporate these studies and include coordination with local traffic management agencies.

CRTLMA-10

See response to comment CRTLMA-9.

CRTLMA-11

See response to comment CRTLMA-9.

CRTLMA-12

As described in Chapter 3 of this Final PEIR, the Preferred Alternative recommended by the Secretary for Resources includes a variety of components that are intended to meet the legislative mandates of providing the maximum feasible attainment of the following objectives:

- 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;
- Elimination of air quality impacts from the restoration project; and
- Protection of water quality.

Specifically, the Preferred Alternative includes 62,000 acres of Saline Habitat Complex, a 45,000-acre Marine Sea, incorporates the air quality "tool box" measures to eliminate, to the extent feasible, air quality impacts from the restoration project, and includes other measures and design considerations that would work to protect water quality. Under the Preferred Alternative, Air Quality Management and the Saline Habitat Complex would have the highest priority for inflows, followed by inflows into the Marine Sea.

CRTLMA (cont.)

CRTLMA-13

See response to comment CRTLMA-1. The State is not required to provide recreation and economic opportunities. In fact, Salton Sea restoration legislation, Fish and Game Code Section 2081.8, provides:

> "[t]he Resources Agency shall undertake the necessary activities to assess the protection of recreational opportunities, including, but not limited to, hunting, fishing, boating, and birdwatching, and the creation of opportunities for improved local economic conditions, surrounding the Salton Sea. The Resources Agency ***shall not undertake any of those activities*** if the agency determines they would constitute a project purpose for environmental documentation that is prepared pursuant to Section 2081.7" (emphasis added).

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Coachella Valley Mosquito and Vector Control District
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January 5, 2007

Dale Hoffman-Floerke
Salton Sea PEIR Comments
Department of Water Resources
1416 9th Street, Room 1148-6
Sacramento, CA 95814

Subject: Comments Regarding the Draft Programmatic Environmental Impact Report (PEIR) on the Salton Sea Restoration Alternatives

Dear Ms. Hoffman-Floerke:

As alternatives for restoration of the Salton Sea have been discussed, the Coachella Valley Mosquito and Vector Control District (District) has consistently expressed its concerns to the Salton Sea Authority regarding many aspects of the proposals. These concerns continue to be relevant as we review the current proposed alternatives. **CVMVCD-1**

A major concern of the District is that the restoration efforts and proposed wetlands will introduce new breeding habitats for the West Nile virus primary vector mosquito, *Culex tarsalis* Coquillett, at the north and south ends of the Salton Sea. It is well established that constructed wetlands rapidly become heavy breeding grounds for mosquitoes. We are also concerned that proposed measures for economic development and recreational opportunities at the Salton Sea fail to include mitigating measures for increased mosquito populations that will affect public health. **CVMVCD-2**

The District's staff is closely involved in the control of mosquitoes that are recognized vectors of West Nile (WN), Saint Louis encephalitis (SLE), and western equine encephalomyelitis (WEE) viruses. According to surveillance program data, these viruses are especially active in southern California's Coachella and Imperial Valleys. The University of California Davis Center for Vectorborne Diseases' research data indicates that shoreline habitats along the Salton Sea are the focus of yearly virus amplification.

Coachella Valley Mosquito and Vector Control District (CVMVCD)

CVMVCD-1

The Draft PEIR includes a discussion of the potential for all of the alternatives to increase human health risk due to exposure of vectors or diseases (see Chapter 14 of the Draft PEIR). As described in Chapter 14 of the Draft PEIR, measures were incorporated in the alternative descriptions, such as maintaining salinities greater than 20,000 mg/L and minimizing brackish water vegetation, to reduce mosquito populations around the Salton Sea. Additionally, the Next Steps include continued coordination with the mosquito abatement agencies (Coachella Valley Mosquito and Vector Control District and the Imperial County Department of Health Services) along with monitoring programs and worker training to reduce exposure to vectors. As stated on page 14-27 (last paragraph) of the Draft PEIR, a variety of different approaches could be considered and researched during project-level analysis.

CVMVCD-2

See response to comment CVMVCD-1.

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January 5, 2007

The breeding habitat for the primary vector species *Culex tarsalis* covers a wide range of water quality, from fresh to very high salinity – up to 35 parts per thousands (ppt). Due to the highly adaptable nature of *Culex tarsalis,* any shallow standing water should be considered a potential breeding site. There is no question that control has played a major role in the decrease of human cases of vector-borne diseases; however, the viruses remain in their enzoonotic cycles between the mosquito *Culex tarsalis* and wildlife birds.

CVMVCD-3

West Nile virus is a single-stranded RNA flavivirus within the Japanese encephalitis antigenic complex that includes Japanese encephalitis virus in Asia, St Louis encephalitis virus in North and South America, and Kunjin and Murray Valley encephalitis viruses in Australia. In nature, West Nile virus is maintained in a mosquito-bird-mosquito transmission cycle wherein birds serve as the natural reservoir hosts for the virus that primarily involves the *Culex* species mosquitoes. Transmission occurs in a continuous cycle characterized by amplification during episodes of adult mosquitoes feeding on avian hosts. Infected birds commonly survive their infection; however, in North America, crows and blue jays have suffered significant mortality.

Migratory birds use four major migratory routes (Pacific, Central, Mississippi, and Atlantic flyways) in North America. The Salton Sea and the wetlands along its shoreline are a critical part of the Pacific Flyway (a major migratory avian corridor) providing permanent habitat and seasonal refuge to millions of birds representing hundreds of species. Most migratory game bird populations are monitored through the cooperative efforts of biologists from state, federal, and provincial agencies. West Nile virus has been detected in at least 138 species. Although birds, particularly crows and jays, infected with WNV can die or become ill, most infected birds do survive. Based on the detection of WNV specific antibodies in these birds, scientists are seeing an increasing number of birds that have been exposed to and survived infection with WNV. Scientists have also detected WNV viremias in birds. Most interestingly, all these birds were sampled at a critical time of migration when they could have transported WNV along the migration corridor.

West Nile virus does not appear to cause extensive illness in dogs or cats. The Center for Disease Control has received a small number of reports of WN virus infection in bats, as well as a chipmunk, skunk, squirrel, and a domestic rabbit. Cases of WN virus disease in horses have been documented through virus isolation or through detection of WN virus-neutralizing antibodies. Humans, horses, and most other mammals are not known to frequently develop infectious-level viremias and, thus, are likely "dead-end" or incidental-hosts.

West Nile virus is an important public health problem in North America. In 2002, for example, CDC received 4,156 reports of human disease cases due to WNV in 44 states. Of these, about 3,000 were central nervous system (CNS) disease cases, and the others were either West Nile fever or clinically uncharacterized. Of the cases of WNV disease

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CVMVCD (cont.)

CVMVCD-3

This information would be useful to a future implementing agency in conducting project-level analysis. As identified in response to comment CVMVCD-1, the Next Steps include continued coordination with the mosquito abatement agencies (Coachella Valley Mosquito and Vector Control District and the Imperial County Department of Health Services).

Salton Sea Restoration Proposals Response
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of the CNS, nearly 300 (about 10%) were fatal. In addition, many survivors have experienced short-term or long-term sequelae. Since the mid-1990s, the frequency and apparent clinical severity of WNV outbreaks have increased. Outbreaks in Romania (1996), Russia (1999), and Israel (2000) involved hundreds of persons with severe neurological disease. The severe symptoms in humans can include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness, and paralysis. These symptoms may last several weeks and neurological effects may be permanent.

West Nile poliomyelitis, a flaccid paralysis syndrome associated with WNV infection, is less common than meningitis or encephalitis. This syndrome is generally characterized by the acute onset of asymmetric limb weakness or paralysis in the absence of sensory loss. Pain sometimes precedes the paralysis. The paralysis can occur in the absence of fever, headache, or other common symptoms associated with WNV infection. Involvement of respiratory muscles leading to acute respiratory failure can sometimes occur.

We believe many residents of the Coachella Valley who have been bitten by an infected mosquito have developed some antibodies to viruses that have been present in the Valley for a long time, i.e., SLE, WEE and West Nile viruses. However, visitors to the Coachella Valley who may be exposed to these viruses for the first time may have more serious effects. During 1993-1994, a study was initiated to determine the seroprevalance of antibodies to WEE and SLE in residents of the southern Coachella Valley. Studied were outpatients of the El Progresso del Desierto Family Health Center (1993-1994), the Progressive Health Clinic in Coachella (1994), and the Indio Health Center (1994). Overall, 19 (2.6%) and 118 (16.4%) sera were positive to antibodies of WEE and SLE, respectively.

The primary function of the District is to maintain a healthy living environment through the prevention of vector-borne diseases in this area. Under difficult conditions, the District has managed to control mosquitoes around the Salton Sea. The proposed projects increase our concerns for public health, especially with the new West Nile virus that was first identified in the summer of 1999 in New York City and in 2003 in California. Nation-wide over the last 6 years, more than 23,000 human cases have been detected resulting in more than 900 deaths. **CVMVCD-4**

All residents of areas where virus activity has been identified are at risk of acquiring West Nile encephalitis; persons over 50 years of age have the highest risk of severe disease. It is unknown if persons with weakened immune systems are at an increased risk for WNV disease. The most effective means for limiting the risk of any of mosquito-borne virus infection is through elimination of mosquito breeding sites. Regrettably, the proposed projects dramatically increase the potential breeding area for mosquitoes. Additionally, none of the proposals provide data on:

- Type of construction of the treatment wetlands. **CVMVCD-5**

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CVMVCD (cont.)

CVMVCD-4

See response to comment CVMVCD-1.

CVMVCD-5

The level of detail requested by the commenter is not currently available. Treatment wetlands are not currently envisioned in the Preferred Alterative as described in Chapter 3 of this Final PEIR. However, if treatment wetlands were considered during project-level analysis, then the type of construction of the treatment wetlands would be identified.

Salton Sea Restoration Proposals Response
CVMVCD
January 5, 2007

- Mitigation measures that would protect the public from increased health risks caused by the increased mosquito populations. **CVMVCD-6**
- Participation of a local health or vector control institution to act as a consultant for the proposed project. **CVMVCD-7**

Proposals concerning the restoration of the Salton Sea must address issues of public health that involve mosquito-borne diseases. Without the information listed above, our District will have a difficult time supporting any of the proposals. Thank you for your consideration of our comments.

Sincerely,

Donald E. Gomsi,
General Manager

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CVMVCD (cont.)

CVMVCD-6

See response to comment CVMVCD-1. The Next Steps identified in Chapter 14 of the Draft PEIR includes continued coordination with the mosquito abatement agencies (Coachella Valley Mosquito and Vector Control District and the Imperial County Department of Health Services) (see Table 14-5 on page 14-22). This information was inadvertently left out of the Next Steps discussion on page 14-27 and the Draft PEIR was modified accordingly. This continued coordination would occur throughout the preparation of the project-level analysis and likely throughout implementation and operation of the project. Although specific mitigation measures that would protect the public from increased health risk caused by the potential for increased mosquito populations have not been identified at this time, the Next Steps provide a framework for development of these measures in coordination with the local abatement agencies during future project-level analysis.

CVMVCD-7

See response to comment CVMVCD-6.

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JAN 16 2007

January 10, 2007

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

RE: Imperial County Air Pollution Control District Comments on a Draft Programmatic Environmental Impact Report for the Salton Sea Ecosystem Restoration Program.

Dear Mr. Hoffman:

The California Department of Water Resources and California Department of Fish and Game, under the direction of the California Resources Agency, has made available for public review and comment the Draft Programmatic Environmental Impact Report (PEIR) for the Salton Sea Ecosystem Restoration Program (PEIR). The Imperial County Air Pollution Control District (ICAPCD), the air quality authority for Imperial County and the Salton Sea Air Basin, acknowledges the importance of these efforts and envision this project to be utilized as a feasible tool to evaluate any pollution problems that may be generated due to the reduction of inflows to the Salton Sea.

The PEIR identifies air quality emission as one likely impact of the restoration program and estimates the amount of new pollutant emissions associated with the proposed alternatives. The amount of emissions estimated for each alternative is only one aspect of addressing the air quality impacts. The most important question, and which has not been answered in this document, is whether the alternatives under consideration will cause the pollution levels in the ambient air to reach levels that are detrimental to human health or the environment. The ICAPCD would like to stress the seriousness of our position as not endorsing any of the identified alternatives that are offered by the PEIR. While the ICAPCD does not endorse any specific alternative, the ICAPCD would like to restate its position requesting full mitigation of air quality impacts associated with this project, regardless of which alternative is ultimately selected to be implemented.

ICAPCD-1

ICAPCD-2

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AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

Imperial County Air Pollution Control District (ICAPCD)

ICAPCD-1

The exceedance of air quality significance thresholds is an indication of the potential serious effects to human health and welfare that might be associated with the projected air emissions. Assuming legislative direction is forthcoming to pursue implementation of a restoration program, project-level analysis would be necessary to address specific impacts and required mitigation measures to eliminate air quality impacts to the maximum extent feasible.

ICAPCD-2

State legislation specifically requires the Preferred Alternative to mitigate air quality impacts to the maximum extent feasible. Project-level analysis would be expected to address the Preferred Alternative's compliance, conformity, and consistency with applicable air quality regulations, laws, and State Implementation Plans, and would define specific mitigation measures for achieving compliance, conformity, and consistency.

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Based on our preliminary review of the documents provided by your office, the ICAPCD requests the following issues be addressed in the Final PEIR:

Ambient Air Quality Monitoring Data, Ozone (Chapter 10, Page 10-10)

This section of the PEIR presents a general overview of the Ozone and PM_{10} ambient air quality monitoring data for Imperial and Riverside counties. It is the ICAPCD's opinion that due to their proximity to the Salton Sea area, the selection of the El Centro and Westmorland stations is appropriate for the ambient ozone and PM_{10} representation. However, the ICAPCD recommends that in order to present a more clear picture of the status of air quality in the area surrounding the Salton Sea, the air quality monitoring data for the Niland Station should also be included in this assessment. **ICAPCD-3**

The ICAPCD has found a discrepancy on the monitoring data presented in Table 10-3 which contains state and federal Ozone concentrations for the 1-hour and 8-hour maximums, 3-year 4th highs, and expected peak day concentrations (EPDC). The data represented for the 1-hour EPDC, 8-hour maximum, and 3-year average 4th high are incorrect. According to the information provided by the California Air Resources Board (CARB), the 2005 EPDC, which is reported as 0.097, should be 0.114. For the maximum value, 0.084 was reported; however according to CARB, this should be 0.100. Similarly, for the 3-year average 4th high, 0.115 was reported when it should be 0.084. Similar discrepancies are found throughout the information provided for the previous years. Because of the implications of the data as presented in this table, this information should be revised and corrected accordingly. **ICAPCD-4**

Table 10-4 contains PM10 data summary for Imperial and Riverside counties. The ICAPCD found some inconsistencies with the data; such as for the 1998 national annual average, the 1999 state days above 24-hour standard and the 2005 high 24 hour national and state averages. In addition, the "not available" classification for the 2004 national annual average, the 2004 expected peak day concentrations and all of the 2005 "not available" classifications are fiction since data does exist for those categories. This information should be revised and corrected. **ICAPCD-5**

Table 10-5 contains ambient SO2, NO2 and CO concentrations. The "not available" classifications for the 2004 and 2005 classifications under the maximum 8-hour day greater than the state 8-hour standard and the day greater than the national 8-hour standard are also fiction since data does exist for those categories. This information should be revised and corrected. **ICAPCD-6**

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ICAPCD (cont.)

ICAPCD-3

The El Centro, Westmorland, and the Niland monitoring stations were chosen to represent the background ozone and PM10 data for Imperial County in Table 10-3 and Table 10-4 of the Draft PEIR. The maximum values, based on data from these three stations, are presented in Table 10-3 and Table 10-4.

ICAPCD-4

Data for the ozone Expected Peak Day Concentration (EPDC), 8-hour maximum, and 3-year average 4th high have been corrected in Table 10-3 on page 10-17 of the Draft PEIR. The highest ozone EPDC values for Imperial County in Table 10-3 have been adjusted, so that the data now read: 0.115 for 2005, 0.119 for 2004, 0.125 for 2003, 0.121 for 2002, 0.123 for 2001, NA remains for 2000, 0.129 for 1999, and 0.135 for 1998. The highest ozone EPDC values for Riverside County in Table 10-3 have been adjusted so that the data now read: 0.114 for 2005, 0.131 for 2004, 0.135 for 2003, 0.134 for 2002, 0.130 for 2001, 0.138 for 2000, 0.143 for 1999, and 0.153 for 1998.

The maximum 8-hour ozone values for Imperial County in Table 10-3 of the Draft PEIR have been adjusted so that the data now read: 0.097 for 2005, 0.083 for 2004, 0.092 for 2003, 0.098 for 2002, 0.086 for 2001, NA remains for 2000, 0.107 for 1999, and 0.100 for 1998. The maximum 8-hour ozone values for Riverside County in Table 10-3 have been adjusted so that the data now read: 0.116 for 2005, 0.106 for 2004, 0.11 for 2003, 0.124 for 2002, 0.113 for 2001, 0.104 for 2000, 0.107 for 1999, and 0.136 for 1998.

The highest 3-Year Average 4th High ozone values for Imperial County in Table 10-3 of the Draft PEIR have been adjusted so that the data now reads: 0.084 for 2005, 0.085 for 2004, 0.087 for 2003, 0.086 for 2002, NA for 2001, NA remains for 2000, 0.092 for 1999, and 0.092 for 1998. The highest 3-Year Average 4th High ozone values for Riverside County in Table 10-3 have been adjusted so that the data now reads: 0.104 for 2005, 0.104 for 2004, 0.108 for 2003, 0.105 for 2002, 0.100 for 2001, 0.099 for 2000, 0.100 for 1999, and 0.107 for 1998.

ICAPCD-5

The data presented in Table 10-4 of the Draft PEIR represent the values available on the California Air Resource Board monitoring web site as of April, 2006 (California Almanac of Emissions and Air Quality). The analysis required a database that represented the most consistent data set (time and location) for the study area. The Draft PEIR has been modified to include a footnote clarifying that the information was not available from the California Air Resources Board.

ICAPCD (cont.)

ICAPCD-6

The data presented in Table 10-5 of the Draft PEIR represent the values available on the California Air Resource Board monitoring website as of April, 2006 (California Almanac of Emissions and Air Quality). The analysis required a database that represented the most consistent data set (time and location) for the study area. The Draft PEIR has been modified to include a footnote clarifying that the information was not available from the California Air Resources Board.

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Methodology for Estimation of Emissions from Construction (Chapter 10, Page 10-26)

This section in the PEIR presents a general overview of the methodology used to estimate air emission from construction activities. Construction emissions were only calculated for the major components of the alternatives, focusing only on two pollutants, NOx and PM_{10}. Emissions estimates included NOx and PM_{10} from operation of combustion equipment and fugitive PM_{10}. Air emissions were evaluated assuming that only conventional equipment and mitigation measures will be used during the construction of this project.

ICAPCD-7

As presented in the PEIR, emissions from construction exhaust, as well as PM10 fugitive emissions generated due to construction are well above the thresholds of significance and therefore these emissions will likely have an adverse impact on the air quality for this region. CEQA requires that an EIR shall include sufficient information to permit full assessment of all significant environmental impacts. The ICAPCD recommends that the PEIR evaluates emissions for all air pollutants that could potentially be emitted from the construction phase of this project, including but not limited to carbon monoxide, $PM_{2.5}$, sulfur oxides, volatile organic compounds, and hazardous air pollutants. The ICAPCD disagrees with the decision that full disclosure of air emissions is only needed for the project-level analysis.

ICAPCD-8

Due to the magnitude of the emissions from the construction phase for this project, especially PM_{10} and $PM_{2.5}$, the ICAPCD encourages the PEIR to explore new and innovative technologies which will help to reduce air impacts, such as the use of conveyor belts for transport of construction material to the site, etc. In addition the ICAPCD recommends that the project level analysis include requirements for land based and marine diesel combustion equipment to adhere to the latest combustion control emission standards, such as, Tier 4 for construction equipment and Tier 2 for marine equipment.

ICAPCD-9

Methodology for Estimation of PM_{10} Emissions from Exposed Playa Areas (Chapter 10, Page 10-27)

This section in the PEIR presents a general overview of the methodology used to estimate PM_{10} emissions from exposed playa areas. Two main assumptions were applied to the calculation of PM10 emissions for each alternative: a) playa exhibits stable crust conditions eight months of the year (April through November) and b) playa exhibits unstable crust conditions four months of the year (December through March). To estimate PM10 emissions from exposed playa areas after implementation of air quality management, it was assumed that 30 percent of the exposed playa area would not be emissive, 50 percent of exposed playa area would use air quality management methods, such as water efficient vegetation, and 20 percent of the exposed playa would use other air quality methods.

ICAPCD-10

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ICAPCD-11

ICAPCD (cont.)

ICAPCD-7

Construction emissions of NOx and PM10 were calculated for the major components, using conventional equipment and control measures, and a uniform set of assumptions, in order to compare the alternatives evaluated in the Draft PEIR. A more detailed analysis of construction emissions would be appropriately conducted during project-level analysis.

ICAPCD-8

Although an evaluation of other criteria air pollutants (such as CO, SOx, VOC, and PM2.5) emitted during the construction would typically be included in an environmental document, the approach used in the Draft PEIR was to evaluate the nonattainment pollutants as indicators of air quality impacts that might be associated with the alternatives. In this way, the relative air quality impacts of alternatives could be compared to help in selection of a Preferred Alternative. A complete air quality evaluation of emissions for all pollutants would be conducted during project-level analysis.

ICAPCD-9

See response to comment ICAPCD-8.

ICAPCD-10

Although construction emissions were estimated to exceed significance thresholds in the Draft PEIR, detailed investigation and evaluation of innovative technologies to reduce impacts during construction are beyond the scope of the Draft PEIR. The Draft PEIR presented a discussion of potential mitigation measures in Appendix E, Attachment E-5, which included technologies such as conveyor systems. These mitigation measures and other innovative technologies would be appropriately explored during future project-level analysis.

As shown in Table 10-14 of the Draft PEIR, emissions from construction equipment were calculated assuming Tier 4 emission standards and emissions from marine vessels were calculated assuming Tier 2 emission standards.

ICAPCD-11

The air quality assumptions used in the Draft PEIR were made based on data available as of March 2006. The assumptions were used to determine the amount of water needed for air quality management and allowed calculation of estimated emissions for each of the alternatives. These assumptions may change based on new information available as part of potential future project-level analysis.

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The ICAPCD concurs with the general assumption in the PEIR that further research is needed in order to establish the final measures for exposed playa. Controlling dust emissions from the exposed playa should be one of the highest, if not the highest, objectives of this or any other reduce inflows alternative.

The PEIR assumes nonemissive areas to be controlled 100 percent without any control measures applied. It is the ICAPCD's position that all exposed playa surfaces can potentially become unstable and may require mitigation. Even relatively small unstable areas can be significant sources of dust. Dust must be controlled as the lake recedes. The Clean Air Act will not allow the "wait and see" approach for mitigation of exposed playa before dust controls are implemented. Even if only portions of the exposed playa emit dust, it will be problematic to decide which portions need to be controlled. Dust controls must be applied before dust emissions start. This may mean that all exposed playa will require dust controls. **ICAPCD-12**

Regulation VIII, Fugitive Dust Rules, was adopted by the ICAPCD Air Board on November 8, 2005, and submitted to U.S. EPA to be incorporated into our SIP on June 16, 2006. Rule 804, Open Areas, requires all persons who own or otherwise have jurisdiction over an open area to apply and maintain dust control measures over the open areas to comply with the conditions of a stabilized surface at all times and limits visible dust emissions to 20 percent opacity. According to Rule 804, all exposed playa could be considered an open area and therefore is required to be mitigated. The ICAPCD concurs with the PEIR using a conservative percentage of exposed playa as emissive for the purpose of estimating emissions. However, the ICAPCD recommends that the project level analysis considers mitigation measures for all exposed playa which could potentially become emissive during certain periods of time and included in the total cost for all alternatives evaluated. **ICAPCD-13**

The ICAPCD recommends that the PEIR makes an assessment of all Imperial County Rules and Regulations that apply to this project. The PEIR should address an analysis of the impacts of these rules as they pertain to this project and demonstrate compliance with these rules. **ICAPCD-14**

Methodology for General Conformity Applicability Analysis (Chapter 10, Page 10-30)

ICAPCD Rule 925, General Conformity, which adheres the requirements of U.S. EPA General Conformity Rule, applies to federal actions that result in emissions of "nonattainment pollutants," or their precursors, in federally designated nonattainment areas. As noted in your report, Imperial County is currently classified as a "serious" non attainment area for the PM10 NAAQS and "marginal" nonattainment area for the federal 8-hour ozone NAAQS. In addition, the majority of the alternatives evaluated in the PEIR would exceed the thresholds for Conformity determination of Rule 925; therefore, this restoration project will be required to comply with General Conformity requirements.

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ICAPCD (cont.)

ICAPCD-12

The emission estimation tool and associated assumptions were developed to provide a comparison among alternatives to meet the overall objectives of the PEIR. They helped determine, for planning purposes, an overall water budget and emissions estimates for air quality management planning. One overall program objective is to mitigate, to the maximum extent feasible, air quality impacts from the restoration project

ICAPCD-13

Project-level analysis should consider the use of any mitigation measures proven to be effective in controlling dust from Exposed Playa. Costs of more extensive playa stabilization work could be incorporated into the costs of alternatives during project-level analysis.

ICAPCD-14

Chapter 25 of the Draft PEIR describes the major permits that may be required for implementation of the alternatives including the Preferred Alternative, and includes the authorizations and approvals required by Imperial County. Additional analysis of needed permits for construction and operation of a restoration program would be undertaken as part of project-level analysis.

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ICAPCD Rule 925, General Conformity, establishes a process to demonstrate that federal actions clearly demonstrate that the total direct and indirect emissions from the type of activities which would be presumed to conform would not: a) interfere with provisions in the applicable SIP; b) cause or contribute to new violations of the NAAQS in the area; c) increase the frequency or severity of any existing violations of NAAQS; and d) delay timely attainment of the NAAQS or any required interim emission reductions or other milestones in any area including emission levels in the applicable SIP for purposes of a demonstration of attainment or a maintenance plan.

The criteria for determining conformity of general federal actions requires to demonstrate compliance with Air Quality Standards through an air quality modeling analysis and developing a mechanism to assure that the project fully offsets its emissions within the same nonattainment area. The offset program should be developed through a revision of to the applicable SIP or an equally enforceable measure that effects emission reductions equal to or grater than the total of direct and indirect emissions from the project so that there is no net increase in emissions.

The PEIR briefly discusses some of the General Conformity requirements for the alternatives proposed. Due to the important role that compliance with General Conformity will play on each alternative proposed, the ICAPCD recommends that the project level analysis makes a more in-depth detailed evaluation of General Conformity compliance. If offsetting of emissions is considered as an option to minimize the impact of this project, the cost associated with the offset program shall be included in the total cost of the project. **ICAPCD-15**

In closing, the ICAPCD feels that the current PEIR falls short of demonstrating the proper analysis of the environmental impacts of the proposed project. With this said, the ICAPCD expects a much more thorough analysis for the project level document. The ICAPCD may have further questions or comments throughout this process and look forward to continued participation on this project. **ICAPCD-16**

The ICAPCD appreciates the opportunity to comment on this project. Should you have any questions regarding this letter, please contact Brad Poiriez or Reyes Romero of my staff at (760) 482 4606.

Sincerely,

Stephen L. Birdsall
Air Pollution Control Officer

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ICAPCD (cont.)

ICAPCD-15

As part of the project- level analysis, a complete analysis of the Preferred Alternative's General Conformity requirements would be evaluated. Costs associated with any proposed offset program to minimize impacts would be included in the total costs for the project.

ICAPCD-16

Climate and air quality information in the Draft PEIR have been presented to assist in evaluation and comparison of alternatives. During the preparation of project-level analysis for the Preferred Alternative, a detailed air quality impact analysis would be appropriate to address specific impacts and mitigation measures that could eliminate the air quality impacts associated with the Preferred Alternative to the maximum extent feasible.

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ICAPCD (cont.)

cc: Imperial County Air Pollution Control Board of Directors
Robertta Burns, CEO, Imperial County
Ralph Cordova, County Counsel, Imperial County
Jurg Heuberger, Executive Officer, LAFCO
Deborah Jordan, Air Director, Region IX EPA
Catherine Witherspoon, Executive Director, CARB
Barry R. Wallerstein, Executive Officer, SCAQMD
Congressman Bob Filner
Senator Denise Ducheny
Assemblywoman Bonnie Garcia

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Imperial County Planning and Development Services (ICPDS)

JAN 19 2007

IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES
PLANNING / BUILDING INSPECTION / ECONOMIC DEVELOPMENT / PLANNING COMMISSION / A.L.U.C.

JURG HEUBERGER, AICP,CEP,CBO
PLANNING & DEVELOPMENT SERVICES DIRECTOR

CERTIFIED MAIL 7003-2260-0003-7209-6588

January 16, 2006

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

SUBJECT: Response to the "Draft Programmatic EIR for the Restoration of the Salton Sea Ecosystem/Resources"/SCH #2004021120

Dear Ms. Hoffman-Floerke:

The County of Imperial received the "Draft Programmatic Environmental Impact Report (DPEIR)" on **November 2, 2006**, for the restoration of the Salton Sea ecosystem and the preservation of its fish and wildlife resources pursuant to the Quantification Settlement Agreement (QSA) implementing legislation. The study period for the Programmatic EIR extends from 2003 to 2078 (75-year study period) for which the QSA could be in effect.

The following are the County staff's comments on the Draft Programmatic EIR that are also being sent to your e-mail address on this date:

1) In the Draft PEIR, Chapter 1, Introduction, Water Transfers, page 1-9, it states that "...Under the QSA and Fish and Game Code, a total of **up to 800,000** acre-feet conserved by IID will be conveyed into the Salton Sea until 2017 to mitigate a portion of the adverse impacts caused by the transfer of water from IID to SCWA (Fish and Game Code Section 2081.7(c)(2)). The Fish and Game Code also allows for the transfer of **a separate 800,000** acre-feet of conserved water from IID to DWR at **$175/acre-foot** in 2003 dollars and adjusted for inflation (Fish and Game Code Section 2081.7(c)(1)...No (c)(1) or (c)(2) water may be transferred unless the Secretary for Resources determines that the transfer is consistent with the preferred alternative. DWR will be responsible for mitigating any environmental impacts related to the transfer of (c)(1) water and for environmental impacts due to changes in the Salton Sea salinity related to the transfer of (c)(2) water. DWR will be able to sell the (c)(1) water and any (c)(2) water to Metropolitan at a price of not less than **$250/acre-foot** in 2003 dollars and adjusted for inflation. Monies from these sales, after deducting costs and reasonable administrative expenses, will be deposited into the Salton Sea Restoration Fund..."

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(AN EQUAL OPPORTUNITY EMPLOYER)

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Therefore, pursuant to the above statement, there is a total of 1,600,000 acre-feet of water that could be transferred by 2017 or soon thereafter? If so, what percentage of these funds will be for "mitigation"? The Final PEIR should specifically state whether all of the "monies" received from water transfers are to be used only for "restoration" or are they intended to be utilized for "mitigation" activities also. **ICPDS-1**

2) The Salton Sea is located approximately three-fourths (3/4) of its total area within Imperial County. Representatives from the County of Imperial and the County of Riverside have been an integral part of the Salton Sea Authority (SSA) and its Task Force since 1986.

The County of Imperial's General Plan and its Elements have various policies and provisions that are germane to the restoration and preservation of the Salton Sea for recreation and wildlife habitat protection. The General Plan supports the restoration of the Salton Sea and within the Draft PEIR, Table 11-4, Summary of Benefit and Impact Assessments to Land Use, it states that **Alternative #7 Combined North and South Lake**, "...would support habitat and recreational uses in a similar manner as those described in the **General Plan**..." (emphasis added).

It is important that the work and studies on the Sea, that have been done by the Salton Sea Authority's scientific committee and Task Force members, be recognized by the State DWR and the State Fish & Game Department. The SSA's preference is the "Alternative #7, Combined North and South Lake". This alternative includes a beneficial use of Colorado River water as part of an "IID freshwater reservoir". This alternative would support the County's General Plan goal of preserving "...**the integrity, function, productivity, and long-term viability of environmentally sensitive habitats, and plant and animal species**..." (Conservation and Open Space Element, "Preservation of Biological Resources"). **ICPDS-2**

The Draft PEIR provisions for the State's selected "**preferred alternative**" would require a revision to certain elements of the General Plan, e.g. the Land Use Element, the Agricultural Element, the Conservation/Open Space Element, and the Water Element regarding the public's future use of agricultural irrigation and drainage water, impacts to aesthetics, air quality impacts, agricultural/farming impacts, growth-inducing impacts, wildlife habitat destruction/restoration, land use impacts, receding of the Salton Sea seabed/shoreline, future potential water transfers, and future socio-economic impacts to the County and adjacent communities surrounding the Salton Sea, to name a few. **ICPDS-3**

ICPDS (cont.)

ICPDS-1

As provided in Section 2081.7 of the Fish and Game Code, there is a total of up to 1.6 million acre-feet that could be transferred by 2017. That section of the Fish and Game Code requires that the funds be deposited into the Salton Sea Restoration Fund. Section 2932 of the Fish and Game Code identifies how the funds in the Salton Sea Restoration Fund can be spent. Under Section 2932.5, these funds cannot be spent for mitigation except for mitigation undertaken by the State.

ICPDS-2

This information would be useful to an implementing agency during possible future project-level analysis.

ICPDS-3

The Draft PEIR includes a discussion of consistency of the alternatives with the Imperial County General Plan in Chapter 11, Land Use.

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The Final PEIR and the State's selection of a "preferred alternative" should be consistent with the Imperial County General Plan, its goals and objectives in preserving the Salton Sea and its habitat as well as provide mitigation for assisting the County if the State's selection of an alternative subsequently requires revisions to the various "Elements" of the General Plan. — **ICPDS-4**

3) The "Alternative #3" in the draft PEIR has been proposed by the Imperial Group as submitted in the spring of 2006, i.e. the "Concentric Lakes", utilizing a "…dredge-filled Geotube ® covered with earthen materials to form a low barrier…The final side slopes would be constructed at 5:1. Rock-slope protection would be placed on the lake side of the Geotube ® Berm…" — **ICPDS-5**

The PEIR's Appendix I addresses the "Concentric Rings" proposal by the Imperial Group. Within this Appendix, the protection envisioned is again "rock-slope protection" on the lake side of the berm. This alternative would create a "…**Perimeter Dike** that would encircle the -204 feet msl contour and would provide desert pupfish connectivity along the entire shoreline…" The flow of the relatively fresh-water from the New River, Alamo River, Whitewater River, IID drains, Salt Creek, and San Felipe Creek would bring new pollutants to the "shoreline" of the Sea and create significant sources of contamination to areas of the "shoreline" where there currently is none. — **ICPDS-6**

Also, nowhere in the Draft PEIR, or Appendix I, is there any mention of or protection from a 100-year flood from any one or more of the above-mentioned water ways, and certainly does not address flooding from the numerous large washes that encircle the Salton Sea. Since the documents only mention "rock-slope protection" on the **lakeside** of the Berm, there is a significant risk, in the event of a 100-year storm event, that the proposed "Geotube ® Berm" would be destroyed by off-shore flash floods. — **ICPDS-7**

The Final PEIR should re-visit this proposed "2006" alternative by the Imperial Group and provide a comprehensive analysis of the impacts of a destroyed "Perimeter Berm" due one or more 100-year flood(s) and the cost implications thereof and how they could be re-built at what costs. — **ICPDS-8**

The Final PEIR should address what would be the impacts, e.g. contamination, stagnation, destroyed berm structures and the resulting mal odorous conditions from contaminants from the New and Alamo Rivers, and who would pay for any required re-construction of the "Perimeter Berm", e.g. if there are two 100-year storm events that occurred back-to-back, like the two Tropical Storms, Doreen and Kathleen, what then? — **ICPDS-9** — **ICPDS-10**

ICPDS (cont.)

ICPDS-4

The Salton Sea Restoration Act (Fish and Game Code 2931(c)(1-3)) provides 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. (2) Elimination of air quality impacts from the restoration projects. (3) Protection of water quality." There is no requirement that the State provide mitigation assistance to the County.

ICPDS-5

Alternative 3 in the Draft PEIR, known as the Concentric Rings Alternative, uses a rockfill structure to create a moderately deep Marine Sea. It is Alternative 4 (not Alternative 3), known as Concentric Lakes and proposed by the Imperial Group, which utilizes a dredge-filled Geotube® covered with earthen materials to form a low barrier.

ICPDS-6

The New, Alamo, and Whitewater rivers, Salt and San Felipe creeks, and IID drains currently flow into the Salton Sea, just as they would in Alternative 4, the Concentric Lakes Alternative, proposed by the Imperial Group. It is unclear what "new pollutants" the comment anticipates; however, modeling indicates that this alternative would react to nutrient inputs and resuspension of existing nutrients in the sediments by becoming very productive biologically. The shallow water depth would result in the lakes being well mixed, which would prevent significant periods of stratification and development of high concentrations of ammonia and hydrogen sulfide. Overall risks to fish and birds from selenium associated with the Alternative 4 (Concentric Lakes Alternative) would be greater than under Existing Conditions and the No Action Alternative, but would be considered moderate. In addition, sediment removal in the sedimentation basins that are part of that alternative could help reduce pollutant loading.

ICPDS (cont.)

ICPDS-7

DSOD requires that all dams within its jurisdiction be capable of adequately passing a selected design flood. This would require a hydrologic analysis to evaluate spillway capacities for design to prevent overtopping. Additionally, all of the alternatives include a flood diversion structure to convey the largest historical flood events to the Brine Sink. This would allow for conveyance of flood flows around facilities and minimize the risk of failure of facilities.

As described in Chapter 3 of the Draft PEIR, the alternatives are programmatic in nature. Engineering design and analysis of spillway structures for flood control would be appropriate during project-level analysis. Additionally, the risk of failure of the Geotubes® due to a variety of factors, including floods, should be considered by any future implementing agency during future design and environmental analysis.

ICPDS-8

See response to comment ICPDS-7. An analysis of cost implications due to project failure is not a requirement of CEQA.

ICPDS-9

Please see response to comment IPDES-7. All facilities involved in any future implementation should be designed and constructed to comply with applicable laws and engineering design standards. This would minimize the risk of failure of facilities. It is assumed that TMDLs would be in place and would reduce the nutrient load from the New and Alamo rivers. Additionally, the Sedimentation/Distribution Basins would provide a regulating reservoir which could be monitored to identify potential contaminants.

ICPDS-10

See response to comments ICPDS-7 and ICPDS-9. Any future implementing agency would likely be responsible for operations, maintenance, and replacement or repair of facilities. In this role, it is likely that the implementing agency would be responsible for these costs.

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4) Imperial County General Plan is discussed in Chapter 4, Summary of Previous Studies and Related Projects, pages 4-14 and 4-15, and states "…The Imperial County General Plan directs the location and **to some extent**, the amount of land use changes in the county…" (emphasis added). The PEIR should be revised to state that the County of Imperial Board of Supervisors, through the approved General Plan, various Elements and Land Use Ordinance does in fact designate specific land uses, provides zoning on each parcel within the County, and implement all legal requirements within its jurisdiction to ensure the public's health and safety. **ICPDS-11**

The County of Imperial does not delegate or abrogate any of its jurisdiction and/or land use authority to any Federal or State agency, unless it is found that the land use issue has been entirely pre-empted by either Federal or State law as settled within the appropriate court of law.

In the Land Use section, Federal Land Use Planning Efforts, it states that "...5,840 acres of the Test Base were transferred to the BLM in 2000…"

The Draft PEIR does not indicate that the Salton Sea Authority seeks to promote the future development of the Navy's Test Base lands for residential and commercial development. Also, the communities of Vista Del Mar and Salton City have seen a tremendous increase recently in the number of housing and commercial applications for development in these areas. Also, the Torres-Martinez Cahuilla Indian Tribe has also proposed plans for their lands between Salton City and Salton Sea Beach, including the construction of a Casino. **ICPDS-12**

Also, within the Land Use, West Shores/Salton City section, it states that there is a "…The proposed Habitat 2000 development includes 1,720 acres of land between Salton Sea Beach and Vista Del Mar (County of Imperial, 2000)…The specific schedule for development was not finalized during preparation of this PEIR…" The Habitat 2000 development as of this date is not a viable project and there are no plans at this time for the development of this project. **ICPDS-13**

The Final PEIR should revise the above text to clarify the County's jurisdiction and involvement with the "…amount of land use changes in the county…" as discussed above and also indicate what the future plans are for development within the above communities.

ICPDS (cont.)

ICPDS-11

The commenter is correct. The Imperial County General Plan directs the location and amount of land use changes in the County. The text in Chapter 4 has been revised accordingly.

ICPDS-12

Chapter 11 of the Draft PEIR was based on the general and land use plans that had been published and adopted, including the Imperial County General Plan, the Riverside County General Plan (Eastern Coachella Valley Area Plan and the Western Coachella Valley Area Plan), and the Torres Martinez Desert Cahuilla Indians Land Use, Zoning and Development Plan. Residential and commercial development proposed by the SSA at the US Navy's Salton Sea Test Base is not included in the current Imperial County General Plan.

ICPDS-13

The Draft PEIR has been modified.

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CA Dept. of Water Resources
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5) There are eight (8) proposed "Alternatives" that have been proposed as part of the PEIR's restoration project. The selected or "preferred alternative" by the State should reflect the State's Fish and Game Code, Section 2931, requirements as they are listed below within Chapter 1, page 1-9:

- **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;**
- **Elimination of air quality impacts from the restoration projects; and**
- **Protection of water quality.**

In Chapter 10, Climate and Air Quality, page 10-31, it states "...**all alternatives are predicted to result in changes in water quality, and may result in odorous emissions**, such as hydrogen sulfide and ammonia. Water bodies in all alternatives would remain eutrophic. Alternatives with deeper water bodies in the northern part of the basin would become thermally stratified and produce significant amounts of anoxic water. Mixing of those waters to the surface would occur and result in localized fish and invertebrate die-offs..." (emphasis added). This section also indicates that there is a potential for microclimatic changes for those areas adjacent to the Salton Sea.

The Final PEIR should state that after the year 2017, the California State Department of Water Resources (DWR) could face a significant burden in the continuation of the Sea's wildlife habitat and restoration efforts, including the handling of the above-mentioned "odorous emissions". **ICPDS-14**

6) With the restoration of the Salton Sea and its ecosystem, there is a very great potential for residential, commercial, industrial, and Torres-Martinez Indian Tribal growth to occur in and around the various townsites that surround the Salton Sea. For example, there may be substantial population growth in the areas such as the Niland/Calipatria area, Westmorland area, and particularly within the West Shores communities of Salton City, Vista Del Mar, Salton Sea Beach and Desert Shores.

If the Salton Sea habitat and restoration activities were to occur with beneficial results, then the existing communities would appear to have a chance of flourishing as was the case during the 1950's and 1960's.

ICPDS (cont.)

ICPDS-14

The commenter correctly references the Salton Sea Restoration Act (Fish and Game Code 2931(c)(1-3)), which provides, "It is the intent of the Legislature that the State of California undertake the restoration of the Salton Sea ecosystem and the permanent protection of the wildlife dependent on that ecosystem." Additionally, Fish and Game Code 2081.7 (e)(1) provides that "the Secretary of the Resources Agency, . . . shall undertake a restoration study to determine a preferred alternative for the restoration of the Salton Sea ecosystem and the protection of wildlife dependent on that ecosystem." However, the Legislature has not provided further direction as yet on implementation of a preferred alternative.

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However, the State's selected ecosystem restoration "**alternative**" could severely curtail and stifle future growth if the preferred alternative results in generation of air quality deterioration and dust storms created by the approximately 77,000 acres (120 square miles of previously inundated Sea sediments), mal odorous conditions due to stagnation of ponds, mosquito infestation due to lack of circulation, increased fish die-offs due to contamination/pollution, increased salinity that could result in deaths of rare and endangered species, e.g. white and brown pelican, Yuma/Black Clapper Rails, and Desert Pupfish, as well as future water transfers to entities outside Imperial County. **ICPDS-15**

Since the Draft PEIR, states that "...**DWR** will be responsible for mitigating any environmental impacts relating to the transfer..." (emphasis added) what if the funds in the Salton Sea Restoration Fund is not sufficient to alleviate and mitigate the above-mentioned future problems? **ICPDS-16**

Further, what happens if and when the above-mentioned **1,600,000 acre-feet** is transferred to SDCWA and/or Metropolitan Water District? The Final PEIR should address in a "worst-case scenario" where any additional funding will come from to adequately mitigate and address the above concerns as of the year "**2017**" (and/or there are future water transfers). **ICPDS-17**

No responsible agency, special district, County entity, County taxpayers, and adjacent Sea residents should be left with any financial burden caused by the selection of the "preferred alternative" by the State DWR and the State Fish and Game ecosystem restoration proposal. **ICPDS-18**

7) The PEIR, Chapter 16, Paleontological Resources, Regulatory Requirements, page 16-1, states that the Imperial County General Plan does not specifically address paleontological resources. However on a case-by-case basis, each development project is in fact reviewed environmentally for any site-specific impacts that the project has on cultural, paleontological and pre-historic resources. As part of the permitting process, a study is typically required for on-site reviews to review/address both the on-site and off-site potential for such resources and a condition imposed on the Permittee, e.g. "...If a discovery is made of any uncovered or unearthed artifacts or human remains, the cataloging of these resources, re-location, preservation and monitoring of such resources is required. All construction and on-site activities must cease until a qualified archaeologist/paleontological expert has been approved by both the County and the appropriate Indian Tribe, has inspected the site and determined the importance of the find, vulnerability of the discovery and a plan for re-location and/or preservation in place has been documented. Once this has occurred, construction activities can then resume..." **ICPDS-19**

ICPDS (cont.)

ICPDS-15

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: (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 projects. (3) Protection of water quality. Refer to Chapter 1, page 1-12 of the Draft PEIR, and Chapter 3 of this Final PEIR, which describe the methodology used to select the Preferred Alternative. Project-level analysis would be required to address impacts and any associated mitigation measures for the Preferred Alternative, including specific measures that could be needed to meet the legislative objectives.

ICPDS-16

Fish and Game Code Section 2081.7 allows for the transfer of up to 1.6 million acre-feet of water from IID to DWR, and allows Metropolitan to purchase that water from DWR. As identified in the Draft PEIR, the (c)(2) water is currently being delivered to the Salton Sea as mitigation under the IID Water Conservation and Transfer Project (Transfer Project) and Quantification Settlement Agreement (QSA) (See Table 3-13 on page 3-80 of the Draft PEIR). Under Section 2081.7, the (c)(2) water can only be transferred if the Resources Secretary makes a finding that the transfer is consistent with the preferred alternative for Salton Sea restoration. Under Section 2081.7, DWR would be responsible for mitigating any environmental impacts related to transfer of the (c)(1) water. At this time, DWR has no plans to pursue the transfer and sale of the (c)(1) water for economic reasons. The Resources Agency recognizes that the costs of the mitigation associated with the transfer of the (c)(1) and (c)(2) water could be substantial. As stated on page 3-81 of the Draft PEIR, ". . . the monetary benefit from the sale of (c)(2) or (c)(1) water does not appear to be significantly greater than the costs associated with the mitigations."

ICPDS-17

See response to comment ICPDS-16. Since the monetary benefit from the sale of (c)(2) or (c)(1) water does not appear to be significantly greater than the costs associated with the mitigations, it is unlikely that DWR will pursue the transfer and sale of the (c)(1) and (c)(2) water. The water cannot be transferred to SDCWA.

ICPDS-18

The commenter identifies a policy issue that is outside of the scope of the Draft PEIR.

ICPDS (cont.)

ICPDS-19

Chapter 16 of the Draft PEIR includes a discussion of state and federal regulations related to paleontological resources. As described in Chapter 3 of the Draft PEIR, project-level CEQA documentation would be expected to be prepared in the future, if there is direction to proceed with a restoration program. The information requested by the commenter would be more appropriate to include in the future project-level analysis or in the Paleontological Resources Monitoring and Recovery Plan (PRMRP) described in the Next Steps section in Chapter 16 of the Draft PEIR. Next Steps also are summarized in Table 3-2 of this Final PEIR.

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The Final PEIR should be re-visited and describe how the County of Imperial, Tribal entities and archaeology/paleontological experts study, review, handle, document, and monitor resources discovered. **ICPDS-19 cont.**

8) The Draft PEIR, Chapter 4, page 4-17, discusses the CalEnergy Salton Sea Unit 6, CE Obsidian Energy LLC, as a planned "…185 megawatt geothermal power plant…" Subsequent to the preparation of the Draft PEIR, CalEnergy modified the power plant and increased the size of the plant to be a "215 megawatt" plant. The Final PEIR should make the above "errata" change. **ICPDS-20**

Also, the DPEIR discusses desalinization plants using vertical tube evaporation (VTE) technology to desalt Sea water near the Sea's south end. Desalinization could produce replacement water for the Sea or for sale to urban areas. The County has been contacted by CalEnergy that, adjacent to its Salton Sea Unit I facilities, this type of desalinization methodology is being reviewed for possible use in providing replacement water to the Sea. **ICPDS-21**

Again, be advised that in the event that any future VTE technology is proposed to be utilized by CalEnergy within its Unit I power plant facility process, the existing Conditional Use Permit would need to be amended to permit this type of desalinization operation and the output flowing into the Salton Sea.

9) The County's Conservation/Open Space Element, page 45, **Preservation of Water Resources**, "…Goal 8: The County will conserve, protect and enhance the water resources in the planning area…" and also states in Objective 8.2 "…Maintain the salinity of the Salton Sea at 40,000 parts per million salinity and encourage the advantageous usage of the Salton Sea for agriculture and natural drainage, recreation, and development…" The currently County General Plan seeks to keep the Salton Sea a "marine" body of water.

The Final Programmatic EIR and State selection process will address how the above County goal and objective is to be accomplished. As previously discussed, the Salton Sea Authority's "**Alternative #7**" appears to be the most compatible with the County's goals and objectives. **ICPDS-22**

Appendix H-2, page H2-12, Salt Loads, discusses the total salt loads for the New and Alamo rivers, IID direct drains, and groundwater has been estimated by the IID for 1950 to 1999 (IID, 2002), "…Average salt load from the Imperial Valley for the historical period is estimated at 3,555,000 tons/year…" **ICPDS-23**

Since the "**historical**" flows of the New River and the Whitewater drainage system has been recently reduced by the new treatment plant in Mexico for the power plants and the Torres-Martinez Indian Tribe's use of "wetlands" on the Whitewater drainage system, the above figures using 1999 and 2003 information should be re-visited in the Final PEIR.

ICPDS (cont.)

ICPDS-20

The Draft PEIR has been modified as requested.

ICPDS-21

At this time a vertical tube evaporation (VTE) system is not being proposed. However, if VTE were considered during project-level analysis, it would be appropriate to consider the permitting requirements for such a facility.

ICPDS-22

The Preferred Alternative and the process for selecting it are described in Chapter 3 of this Final PEIR. As described in that chapter, the Preferred Alternative includes a 45,000-acre Marine Lake with a target salinity of between 30,000 to 40,000 mg/L. The Marine Lake is consistent with the County General Plan goal and objective identified by the commenter. The Draft PEIR describes whether or not an alternative is consistent with the County General Plan in accordance with the CEQA Guidelines Appendix G. However, the Draft PEIR does not specifically identify the alternative most or least compatible with the General Plan goals and objectives.

ICPDS-23

The Draft PEIR used available data from IID for estimates of historical salt loads contributed by Imperial Valley, Coachella Valley, and other sources from 1950 to 1999. The historical unit salt loading (tons/acre-feet flow) was used to estimate loads from 1999 to 2002. Salt load reductions from Mexico as a result of Mexicali wastewater improvements and two power plant projects were accounted for based on estimates of flow reduction. More recent flow data could be considered during project-level analysis, but would not be expected to significantly change the modeling results for salt load estimates over the 75 year study period.

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If the County's General Plan goals and objectives are not met, then the Final PEIR should reconcile the preferred "alternative" chosen and its compliance or non-compliance with the above Imperial County General Plan requirements.

ICPDS-24

10) The Draft PEIR, Appendix H-6, page H6-71, discusses the transportation of rocks for construction from the Eagle Mountain Mine. It states that "…If the Eagle Mountain Mine was used, the existing railroad would need to be repaired and an additional track or siding could be constructed to meet production rates…" The existing railroad track adjacent to State Highway 111 to the Eagle Mountain Mine is not in service at this time and to "repair" or add an "additional track or siding" would add a tremendous expense to the already expensive alternatives that are being considered for the restoration project.

ICPDS-25

The time for the construction of the barrier as discussed in Appendix H-6, Special Construction Methods, page H6-70, is estimated to take **4** years (24 hours/day for 7 days/week for 4 years) with another estimate in this Appendix indicating that it could take "over **7** years", unless air quality management did not allow for higher levels of construction activities, then it may take even longer.

ICPDS-26

In Appendix I, Alternative-Specific Materials Provided by the Imperial Group and the Salton Sea Authority, it states on page 23, that for construction of barriers, perimeter dikes, berms, and conveyance facilities, the document states "…The construction of the Plan would be completed in **8 to 12** years…"

Why the significant difference in these estimates for construction purposes, e.g. four years, seven years, and 8 to 12 years? The proposed use of rock from Eagle Mountain, by improving the existing Union Pacific Railroad tracks and additional track or siding, may not be a viable alternative due to the length of time to implement these improvements and the significant expense that would be incurred for such a proposal.

Also, the Union Pacific Railroad is mentioned in the maintenance and operations of the two treatment plants, e.g. sludge removal or chemical deliveries, and the document states that "…A rail spur is proposed to deliver chemicals to the Alamo River treatment plant…" Has the Union Pacific Railroad been contacted and has an estimated cost for the above proposals been provided and, if so, what estimates for time and funds has the Union Pacific proposed for each of these proposals for the required "rock" and "rail spur" to the Alamo River treatment plant?

ICPDS-27

ICPDS (cont.)

ICPDS-24

See response to comment ICPDS-22.

ICPDS-25

No cost estimate was performed to repair the railroad track from Eagle Mountain Mine to the Salton Sea or to add an additional track or siding. Such analysis is beyond the scope of this Draft PEIR because a rockfill source has not been determined. However, the Resources Agency anticipates that all methods to transport rock to the Salton Sea would be costly.

ICPDS-26

Both of the construction timeframes should be 7 years on page H6-70 in Appendix H6 of the Draft PEIR. The Draft PEIR has been modified. The differences in construction time between the State's and the SSA's estimates are due to different assumptions used in the rockfill design, rockfill source, and method of transport.

ICPDS-27

The Union Pacific Railroad rail spur was initially proposed by the SSA. As of the issuance of this Final PEIR, the State has not contacted Union Pacific Railroad to discuss such a rail spur and no cost or time estimates have been prepared. If future project-level analysis determines that a rail spur is needed, coordination with Union Pacific Railroad and cost and timing estimates could be prepared.

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The Draft PEIR discusses the potential use of the Torres-Martinez "Coolidge Mountain" for rockfill materials that is located adjacent to the northwesterly shoreline of the Sea. The Salton Sea Authority is investigating the permitting issues and if future impact to private lands occurs this may require review and County permitting. **ICPDS-28**

The Final PEIR should address whether obtaining the necessary "rock" from the Eagle Mountain Mine and the "rail spur" to the Alamo River treatment plant are a viable, timely and a reasonable cost to incur from the Union Pacific Railroad for the proposed Salton Sea restoration project. **ICPDS-29**

11) In Chapter 7, page 7-2, it indicates that the San Andreas and Algodones faults do not appear to impede or control groundwater movement, based on ground water levels from the 1960's. (Salton Sea Authority, 1999). However, thereafter on page 7-6, it states "...The East Salton Sea Basin is bordered on the north and east by the Chocolate Mountains and by the San Andreas Fault and the Salton Sea on the west. Groundwater movement is primarily in a western to southwestern direction towards the Salton Sea. Groundwater flow may be impeded by the faults (DWR, 2003)..."

There was a geological study by UCSD staff who trenched for a geo-technical study on earthquake faulting at Salt Creek, adjacent to the Salton Sea and east of State Highway 111. The Final PEIR should obtain the results of the UCSD study and include any applicable information within the final environmental document as appropriate relating to the flow of groundwater. **ICPDS-30**

12) In Chapter 9, pages 9-22 through 9-28, it indicates that "Alternative 1" would have a loss of mineral resources (e.g. rock and gravel) impacting 136,700 acres of land; "Alternative 2" would lose about 206,400 acres; "Alternative 3" about 155,450 acres; "Alternative 4" about 96,950 acres; "Alternative 5" about 230,450 acres, "Alternative 6" about 224,250 acres of land; "Alternative 7" about 131,950 acres; and "Alternative 8" about 209,550 acres of land. **ICPDS-31**

The Final PEIR should address specifically where the "mineral resources" are to be obtained from and whether or not any of these rock and gravel resources are within areas designated as "Agriculture" in the County's Land Use Element/Land Use Plan Map, Zoning Maps, for any potential impacts on agricultural resources or the creation of land use conflicts.

ICPDS (cont.)

ICPDS-28

The SSA's investigation of permitting issues at Coolidge Mountain would be useful for possible future implementation, and could be incorporated into future project-level analysis as applicable.

ICPDS-29

Eagle Mountain Mine is only one of several potential rockfill sources. Actual rockfill source(s) and method(s) of transport would be determined during project-level analysis. The benefit/cost analysis recommended by the commenter would be more appropriately conducted during project-level analysis.

ICPDS-30

A number of studies have been completed by the University of California, San Diego regarding the San Andreas Fault and Salt Creek. It is unclear which of these studies the commenter is referring to. However, one study titled Modulation of the Earthquake Cycle at the Southern San Andreas Fault by Lake Loading (September 2006) discusses the correlation between seismic fault slip history and Cahuilla Lake level history. The report concludes that there is a possibility of stress changes in the San Andreas Fault due to lake loading changes in Lake Cahuilla. The report also states that firm conclusions cannot be made without better constraints on the paleo history for the Salton Trough region. Regarding the Salton Sea, the study states in two paragraphs that potential damming of the Salton Sea, may result in similar, though less stress to the Salton Sea/San Andreas fault system. The analysis suggests the "possible seismic impact of sudden changes in lake level should be considered in addition to the hazards of a dam nearby a major active fault." Further analysis of the Salton Sea and seismic activity associated with lake levels and construction of barriers could be appropriate during project-level analysis.

ICPDS-31

The Conservation/Open Space Element of the Imperial County General Plan has designated specific areas for mineral resource extraction which are located generally southeast of the Salton Sea. Agricultural lands, which are also designated in the General Plan, do not overlap with mineral lands. Appropriate additional analysis of the potential impacts of the Preferred Alternative's mineral resource extraction would be more appropriately conducted during project-level analysis when mineral resource extraction sites for the project have been identified.

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13) Within Appendix I, page 24, it states that "…asphalt-paved roads will be constructed to the quarry site and to the marina sites. It is anticipated that these will be standard road widths and would be relatively short roads coming off either Highway 86 or 111. Unsurfaced maintenance roadways would be on top of the larger embankments…" Will these asphalt-paved roads then become "County-maintained" roads? Has the Imperial County Department of Public Works been contacted to determine if the "widths" of the proposed "asphalt-paved roads" are consistent with minimum County standard road "widths"?

The Final PEIR should indicate whether or not the proposed asphalt-paved roads will become a County burden for future maintenance and if these roads are intended to become listed on the County-maintained mileage logs?

ICPDS-32

14) The Draft PEIR, Chapter 19, page 19-14, Public Services and Utilities, Next Steps, discusses the impacts that the "alternatives" would have on local solid waste landfills. The document acknowledges the detrimental effects to the future and life spans of these landfill facilities by drastically reducing their capacity. The mitigations proposed discuss only the encouragement of recycling and transportation of the waste generated to other counties which have larger capacities for solid and hazardous waste disposal.

Also in Appendix I, 5. Water Quality Management, page 5, it discusses the "…chemical treatment followed by solids separation (CTSS) system…" and later discusses "…sludge quality and volumes…" and further states "…The residuals from the CTSS plant and filtrate from the hyplimnetic water treatment plan will be store in holding ponds and then conveyed to the brine pool. **No residuals/filtrate will be hauled off-site**…" (emphasis added). In the event that the chemical treatment plants, their holding ponds and the resultant sludge is characterized as a "toxic" or a "hazardous waste", then it should be disposed of in an appropriate manner that meets all federal and state toxic requirements that may include disposal in the County's hazardous waste disposal site.

ICPDS-33

As you may be aware, Imperial County has the only hazardous waste site located in Southern California. The Clean Harbors hazardous waste landfill is located approximately six miles west of the City of Westmorland. The transportation of any hazardous waste generated by the Salton Sea restoration project to any other "county" would add a very expensive transportation cost to the project.

ICPDS (cont.)

ICPDS-32

The maintenance duties associated with new roads would be more appropriately determined during project-level analysis once the extent, type, use, and location of new roads has been identified.

ICPDS-33

As identified by the commenter, materials designed as hazardous waste, including sludge generated from the water treatment plant in Alternative 7 would be disposed of in a manner that meets all federal and State laws.

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The Final PEIR should propose that any disposal of hazardous waste generated by the project be disposed of within the local Clean Harbors hazardous waste landfill. The County should be kept fully advised of any and all "byproduct disposal" whether or it is solid waste or hazardous wastes and any trucking and disposal thereof into the Clean Harbors hazardous waste facility may require an amendment to its existing County permit. ICPDS-34

15) The State Department of Fish and Game through the preparation of the Programmatic EIR is mandated by state law to create and preserve the existing and future ecosystem and biological resources found in and adjacent to the Salton Sea. As all may be aware, in the recent past the Salton Sea was been categorized by various individuals and agencies as the best fishing grounds in the State of California. The Final Programmatic EIR and the State's selected "preferred alternative" must keep "fishing" as one of the recreational uses of the Salton Sea and any significant impacts to the water quality of the Sea and future impacts on the fishery should be fully protected. ICPDS-35

Historic recreational and biological values of the Salton Sea, e.g. enjoyment of fishing, boating, habitat preservation/creation, swimming/wading, sight-seeing, bird watching, or other water-related recreational activities, the Final PEIR must ensure that the "preferred alternative" selected by the decision-making agencies do the greatest good for the future preservation and protection of the State largest body of water for the above-mentioned purposes. ICPDS-36

16) The use of "Wetlands" is identified as a method of reducing nutrients into the Salton Sea on the New and Alamo rivers. In Appendix I, it states that a full build out of these "wetlands", "…**4,000** acres of wetlands are planned…" But in a following section, it states "…Wetlands, specifically along the New and Alamo Rivers, are part of the plans for reducing inflow loads to the Salton Sea. The proposed locations of the wetlands have been identified in past work performed for the Citizens Congressional Task Force (Nolte, 2002). This report identified 35 sites totaling **4,300** acres that were suitable for development wetlands…" The Final PEIR should correct which "wetlands" figure is the correct one. ICPDS-37

Since these wetlands locations are planned to be "…constructed in mid to late 2007,with all proposed wetlands being built over a period of ten years…", the County staff should be immediately contacted to ensure that these planned wetlands are reviewed for their land use impacts and any environmental documentation that may need to be approved. ICPDS-38

ICPDS (cont.)

ICPDS-34

At the time of the Draft PEIR publication in October of 2006, the Clean Harbors hazardous waste landfill near the City of Westmorland was not accepting new material. (Refer to Chapter 19, page 7 of the Draft PEIR). During future project-level analysis, the types and amounts of hazardous waste generated would be determined. If hazardous waste were generated, then any future implementing agency would need to identify a single or various disposal sites for this material. As part of this effort, any future implementing agency could review the issue of amending the existing County permit with Clean Harbors to accommodate disposal. The permitting requirements for disposal of hazardous materials at the Clean Harbors hazardous waste landfill has been added to Chapter 25, Permits and Approvals.

ICPDS-35

The Salton Sea Restoration Act (Fish and Game Code 2931(c)(1-3)) provides 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. (2) Elimination of air quality impacts from the restoration projects. (3) Protection of water quality."

ICPDS-36

See response to comment ICPDS-35. The State is not required to provide recreation and economic opportunities. In fact, Salton Sea restoration legislation, Fish and Game Code Section 2081.8, provides:

> "[t]he Resources Agency shall undertake the necessary activities to assess the protection of recreational opportunities, including, but not limited to, hunting, fishing, boating, and birdwatching, and the creation of opportunities for improved local economic conditions, surrounding the Salton Sea. The Resources Agency ***shall not undertake any of those activities*** if the agency determines they would constitute a project purpose for environmental documentation that is prepared pursuant to Section 2081.7" (emphasis added).

ICPDS (cont.)

ICPDS-37

The information referred to by the commenter in Appendix I of the Draft PEIR was provided by the SSA. Because this information is prior correspondence between the State and the SSA, it would not be appropriate to correct this information at this time. The basis for the acreage is the information prepared by the Citizens Congressional Task Force, the same as identified by the commenter. The 4,000 acre value is an approximate value as identified in Appendix I of the Draft PEIR.

ICPDS-38

Although the SSA identified the construction of these wetlands in 2007, the Preferred Alternative as recommended by the Secretary does not include wetlands as a treatment option for the reduction of nutrients (see Chapter 3 of this Final PEIR). However, water quality improvements, including the use of wetlands, could be investigated in project-level analysis. See response to comment ICPDS-34 for information on hazardous waste disposal.

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The "wetlands" proposed include sediment basins that would need "periodic cleanout. Also, the treatment plant for the river flows would include a pretreatment settling pond which would need to be maintained. In addition, some periodic maintenance dredging in the south basin may be needed…" **ICPDS-38 cont.**

In the future, when the sediment is analyzed and determined to have toxic or heavy metal constituents that exceed the federal and state standard criteria and considered a "hazardous waste", then a waste disposal plan will need to be prepared for appropriate disposal, i.e. including the Clean Harbors hazardous waste site.

The Draft PEIR discusses in the various "alternatives" submitted for review, e.g. lakes, brine sink, wetlands, and reservoirs, which when constructed and maintained could become a new breeding ground for mosquitos that can carry various viruses. **ICPDS-39**

The typical condition for projects within Imperial County is to prepare and obtain a County-approved "Mosquito Abatement Plan and Program" in order to reduce the risk of any mosquito-borne virus from significantly impacting local residents, snow-birds, and/or other visitors to the Salton Sea and its environs.

The Final PEIR should address how mosquitos will be abated for the selected "preferred alternative" and what mitigation measures and monitoring proposed that will mitigate the risk of encephalitis or West Nile virus being transmitted to residents and visitors. As you may be aware, the West Nile virus has been found in poultry within the Niland area already.

There are a number of "typos" in the Draft PEIR as follows: Chapter 3, Description of Alternatives, page 3-80, it states that "…conserved water from IID to DWR at **$175/acre-foot** in 2003 dollars…" which is a different figure from the "**250/acre-foot** in 2003 dollars on page 1-9; Chapter 21, page 21-5 "…SDG&E is participating in development of a 300 Megawatt solar farm near Calexico…" which should read "near Ocotillo"; Chapter 21, page 21-6, "…"There are seven known geothermal resources areas (KGRAs) in Imperial County…" should read "There are nine"; ;Chapter 23, page 23-5, Drop 2 Reservoir Project, Lower Colorado Water Storage Project, indicates that the project would be located on "…about **621** acres formerly used for the Brock Ranch…" and the Final PEIR should read "about **615** acres"; Chapter 28, page 28-5, Bibliography, "Planning/Building Department" should read "**Planning and Development Services Department.**" **ICPDS-40** **ICPDS-41** **ICPDS-42** **ICPDS-43**

The County hereby reserves the right to provide further comments on the Final Programmatic Environmental Impact Report when it is received for review.

ICPDS (cont.)

ICPDS-39

The potential for all of the alternatives to increase human health risk due to exposure to vectors or diseases was described in Chapter 14 of the Draft PEIR. As described in Chapter 14 and Table 3-2 of this Final PEIR, the Next Steps include continued coordination with the mosquito abatement agencies (Coachella Valley Mosquito and Vector Control District and the Imperial County Department of Health Services) along with monitoring programs and worker training to reduce exposure to vectors. This continued coordination could occur throughout the preparation of the project-level environmental document(s) and likely throughout implementation and operation of the project. Although specific mitigation measures have not been identified at this time, the Next Steps provide a framework for development of these measures in coordination with the local abatement agencies during future project-level analysis. Next Steps would include preparation of a specific county mandated Mosquito Management Plan which would be expected to be submitted for County approval by the implementing agency during possible future project-level analysis.

ICPDS-40

There is no error in the text. For the (c)1 water, which relates to the provisions in the Fish and Game Code (see Section 2081), the $175/acre-feet refers to the price of water purchased from IID by DWR, and the $250 refers to the price of water purchased from DWR by Metropolitan.

ICPDS-41

Based on the information available for the preparation of the Draft PEIR, it is our understanding that the solar farm is near Calexico. If, however, the solar farm was in Ocotillo, it would not change the significance of impacts from the characterization contained in the Draft PEIR.

The Draft PEIR has been modified as requested to accurately reflect the number of known geothermal resources areas (KGRAs) in Imperial County.

ICPDS-42

The Draft Environmental Assessment for the Drop 2 Storage Reservoir Project was released by Reclamation in November 2006, after the issuance of the Draft PEIR (Reclamation, 2006). The acreage number in Chapter 23 of the Draft PEIR has been updated to reflect the recently released Draft Environmental Assessment. The information in the Draft Environmental Assessment does not change the cumulative impact assessment in the State's Draft PEIR.

ICPDS-43

The Draft PEIR has been modified as requested.

ICPDS (cont.)

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We look forward to working with the various affected agencies and the decision-making bodies of all federal agencies, state agencies, special districts, water districts, Indian Tribes, military bases, area community residents and the Salton Sea Authority for restoring and maintaining the Salton Sea and its historic flora and fauna ecosystem.

If you have any questions on the above, please contact me at (760) 482-4236, extension 4279, or by e-mail at darrellgardner@imperialcounty.net.

Sincerely,

Darrell Gardner
Assistant Planning & Development Services Director

cc: Robertta Burns, County Executive Officer
Ralph Cordova, County Counsel
Joanne L. Yeager, Assistant County Counsel
Jurg Heuberger, AICP, CEP, Planning & Dev. Services Director
William Brunet, Imperial County Public Works Director
Stephen L. Birdsall, Agricultural Commissioner/APCO
Mark Johnston, Imperial County EHS/Health Department
Fred Nippins, County Fire/Office of Emergency Services
Michael King, Water, Imperial Irrigation District
Robert Perdue, Executive Officer, RWQCB, Region 7
Rick Daniels, Executive Director, Salton Sea Authority
Daniel N. Schochet, Vice-President, ORMAT Nevada
Vicki Woods, Field Manager, BLM/El Centro Resource Office
Vincent Signorotti, Vice-President, Land Manager/CalEnergy
U.S. Fish & Wildlife Services, Calipatria office
CA State Dept. of Water Resources File
CA State Dept. of Fish and Game File
SS Ecosystem Restoration Draft PEIR File
File 10.100, 10.105, 10.124, 10.130, 10.133, 10.134, 10.142, 10.150, 10.331, 40.110

JH/DG/JM/RC/DB/LF/AG/MS/ID/S:/WATER/PEIRSaltonSeaEcosystemRestorationResponse3

Imperial Irrigation District (IID)

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Via Federal Express/Facsimile and Email

January 16, 2007

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

Re: Comments on Salton Sea Ecosystem Restoration Program

Dear Ms. Hoffman-Floerke:

I am enclosing with this letter Comments submitted on behalf of the Imperial Irrigation District ("IID") on the Salton Sea Ecosystem Restoration Program Draft Programmatic EIR ("SSRP PEIR"). These comments are submitted by IID as a stakeholder in the restoration project and as a Responsible Agency pursuant to CEQA Guidelines section 15096(d). We request that IID's Comments be included in the administrative record for the SSRP PEIR process.

IID's Comments are intended to facilitate the preparation of a thorough and accurate environmental assessment. We appreciate the opportunity to provide these Comments. We also wish to thank the Resources Agency and DWR and CDFG staff for their efforts in preparing the Draft PEIR. We look forward to working with you to prepare the final PEIR.

If you have any questions, please do not hesitate to contact the undersigned.

Very truly yours,

Ellen B. Spellman

Ellen B. Spellman
Attorney for IID

EBS:slt
Enclosure

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IID (cont.)

COMMENTS ON
SALTON SEA ECOSYSTEM RESTORATION PROGRAM
DRAFT PROGRAMMATIC EIR

Submitted by:

Imperial Irrigation District

January 15, 2007

Introduction.

Imperial Irrigation District ("IID") appreciates the opportunity to comment on the Draft Programmatic EIR ("PEIR") for the proposed Salton Sea Ecosystem Restoration Program ("SSRP"). IID supports restoration of the Sea and the broad legislative objectives which provide the framework for the SSRP.

Our comments focus on the compatibility of the PEIR Alternatives with the State legislation and the accuracy and sufficiency of the environmental assessment contained in the PEIR. Our comments also seek to evaluate the PEIR Alternatives in light of a number of more specific policies and goals which are important to IID and relevant to the selection of the Preferred Alternative.

These IID goals and objectives include the requirements that the restoration plan:

- Must preserve and protect IID's water rights and uses of water, and should not be used to facilitate or promote more water transfers out of the Imperial Valley.
- Must not restrict the use of the Salton Sea as a repository for IID's agricultural drainwater.
- Must not restrict IID's right to recapture and reuse agricultural drainwater or require any guarantee by IID of drainwater inflows to the Sea in the future.
- Must accommodate fluctuations in Sea elevation and salinity.
- Must recognize IID's limited responsibility and liability for environmental impacts and restoration costs pursuant to State legislation and IID's contracts with State agencies.
- Must allow for the conservation of water by efficiency improvements to enable farmers to farm the same amount of land with less water, and allow IID to switch, before 2018, from fallowing to efficiency conservation measures to implement the IID Water Conservation and Transfer Project ("Transfer Project").

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- Must not impede IID's compliance with existing contractual obligations and permit requirements, especially those related to the "Transfer Project" and the Quantification Settlement Agreement (QSA").

Part 1: MAJOR ISSUES

This section describes certain major issues identified during our review of the PEIR.

1. **Development of Preferred Alternative.**

The PEIR indicates that the Preferred Alternative may not be identical to any of the eight Alternatives assessed in the PEIR and that the Components may be modified or re-assembled to create the Preferred Alternative. DWR's failure to recommend a Preferred Alternative, or even to provide a meaningful ranking of Alternatives, has resulted in a PEIR which is quite broad and unfocused. In addition to making comment difficult, this approach appears to encourage further change and development of restoration options. We understand that modifications have been made, and apparently continue to be made, to the Imperial Group plan (the basis for Alternative 4) and the Salton Sea Authority plan (the basis for Alternative 7). The Salton Sea Coalition has also indicated that it supports a hybrid Alternative different from the PEIR Alternatives.

IID does not object to reconfiguration of the Alternatives as long as it is intended to achieve Project objectives and/or to reduce environmental impacts. However, we are concerned about having the opportunity to comment on the development of the proposed Preferred Alternative prior to selection. Please confirm the process for accommodating comment by IID and others during this process. Of course, the scope of changes to the proposed restoration Project is limited by CEQA, unless DWR re-circulates a revised Draft PEIR for additional public review and comment [*see* CEQA Guidelines § 15088.5].

With regard to IID's role, we note that IID is not only a stakeholder in the restoration process, but also a Responsible Agency under CEQA Guidelines Section 15096. A Responsible Agency is defined as one having discretionary approval power over some portion of the project. It appears that IID's discretionary approval will be required to implement any of the restoration Alternatives, since they all anticipate acquisition of fee title to, or easement rights over, substantial lands owned by IID. Other features of the Alternatives directly involve IID facilities and operations and appear to assume modifications of existing IID contractual and permit obligations. Finally, if any (c)(1) or (c)(2) water is to be transferred by IID to DWR, IID must approve key aspects of this transaction, including the environmental assessment [*see* Part 1, Section 11 of these Comments, below].

2. **Federal Feasibility Study.**

The U.S. Bureau of Reclamation ("USBR") has been involved in Salton Sea reclamation/restoration studies at least since adoption of the federal Salton Sea Reclamation Act in 1998. Most recently, the Water Supply, Reliability, and Environmental Improvement Act of 2004 directed the Secretary of the Interior to complete a feasibility study on a preferred restoration alternative. It is our understanding that this Feasibility Study is being finalized by

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IID (cont.)

IID-1

The Resources Agency has a statutory mandate to prepare a programmatic environmental document (see Fish and Game Code Section 2081.7). Moreover, a programmatic approach under CEQA is used as a first tier environmental document to evaluate a series of inter-related actions that can be assessed as an integrated whole for the purpose of CEQA analysis. As described in Chapter 1 of the Draft PEIR (see page 1-12), the provisions of CEQA are based on the premise that the lead agency is reacting to a proposal or request or a discretionary action and conducting an environmental review of a "proposed project" (see CEQA Guidelines Sections 15124(a), (b); 15126(a); 15126.2(a); and 15126.6). Therefore, compliance with CEQA, in preparing an Environmental Impact Report (EIR), typically relates to analysis of the proposed project and alternatives (based on the proposed project's objectives). However, CEQA provides discretion for the lead agency to propose several alternatives for achieving certain objectives, without identifying one of the alternatives as the "proposed project" in the draft EIR, as long as the draft EIR contains sufficient level of detail of all the alternatives, as if any of them were the proposed project. The lead agency has the discretion to determine the alternative to be selected as the "proposed project" in the final EIR, after all environmental analysis has been completed, provided that the alternatives with the potential for being selected have been adequately analyzed in the EIR.

The components of the Preferred Alternative are described in Chapter 3 of this Final PEIR and have been fully analyzed in the Draft PEIR.

IID-2

The preferred alternative selection process is described in Chapter 3 of this Final PEIR. Comments by IID and others throughout the CEQA process have contributed greatly in the development and selection of the Preferred Alternative, including during the Preferred Alternative Working Group meetings and at the Salton Sea Advisory Committee meetings. Comments provided by IID representatives have been taken into account in this process.

IID-3

The Resources Agency recognizes IID's role as a Responsible Agency in the development and implementation of any future restoration project (see Chapter 25 of the Draft PEIR). During development of any project-level CEQA documentation, there would be further consultation with Responsible Agencies, including IID.

USBR and will be released on January 23, 2007, approximately one week after close of the PEIR comment period. IID believes that the process for selection of a Preferred Alternative should permit concurrent public review and comment on both the PEIR analysis and the USBR Feasibility Study, in order to ensure that the decision is based on the best available information. Please confirm that the selection process will accommodate this review and comment.

The State legislation adopted to facilitate Salton Sea restoration requires the Resources Secretary to "use all available authority" to enter into a memorandum of understanding with the Secretary of the Interior to provide for federal participation in the SSRP [SB 317 (2003), adopting Fish and Game Code Section 2081.7(e)(1)]. Please explain what actions DWR has taken to facilitate coordination between the State and federal studies and federal participation in Salton Sea restoration. Please also explain how DWR expects to coordinate completion of the environmental review process under both CEQA and NEPA in order to allow federal participation.

3. Essential Components/Objectives.

IID maintains that the Preferred Alternative should include certain key Components, including the following:

3.1 Drainage Repository.

The Salton Sea must remain available for use as a repository for agricultural drainage, which is the long-standing, historic use of the Sea since the 1920s. This purpose is acknowledged in the federal Salton Sea Restoration Act and in the PEIR [at 1-3]. The criteria used to select the Preferred Alternative must ensure that this continued use of the Sea is accommodated and not materially impeded.

3.2 Air Quality Management.

The Preferred Alternative must include implementation of all feasible mitigation measures to address air quality impacts resulting from both shoreline emissions and construction emissions. This is an important concern for IID and its constituents, especially since air quality emissions are predicted in the PEIR to exceed state and federal standards around the southern Sea shoreline.

3.3 Early Start Habitat.

This Component, as assessed in the PEIR, appears to be beneficial under all Alternatives and should be implemented as part of the Preferred Alternative. In addition, IID recommends accelerating the necessary design study, environmental assessment and permit process for this Component so that it can be implemented as soon as feasible, and whether or not the SSRP has been fully approved and permitted [*see* Section 6 of these Comments below]. Based upon the PEIR, this Component would be constructed along the southern shoreline between -228 feet msl (the current Sea elevation) and -235 feet msl, and that it could be implemented before 2011 if land could be acquired by that time. IID requests an analysis of the earliest time period for implementation of this Component.

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IID (cont.)

IID-4

Reclamation released the Draft Federal Feasibility Study on February 2, 2007, after the preparation of the Draft PEIR and after the close of the public comment period on the Draft PEIR. The Draft PEIR recognized that the Draft Federal Feasibility Study is ongoing (for example, see page 23-8 of the Draft PEIR). The State has coordinated with Reclamation throughout the preparation of the Draft and Final PEIRs and selection of the Preferred Alternative. The State has reviewed the Draft Federal Feasibility Study. In general, there is considerable overlap between the components and/or configurations considered by Reclamation and the State's Draft PEIR alternatives. During project-level analysis, the implementing agency could consider design configurations and components that are unique to the Draft Federal Feasibility Study.

IID-5

Attempts by the Resources Agency, through DWR, to engage Reclamation and develop a memorandum of understanding early on in the State's environmental compliance process were unsuccessful. However, the State has worked closely with Reclamation, and Reclamation has been a member and an active participant in the Salton Sea Advisory Committee.

It is unclear which "environmental review process" the commenter is asking about. The Draft PEIR is not a joint NEPA/CEQA document. For the State's Draft and Final PEIR, the Resources Agency has complied with CEQA. Reclamation, U.S. Fish and Wildlife Service, U.S. Geological Survey, U.S. Environmental Protection Agency, and U.S. Bureau of Indian Affairs participated in the process of recommending a preferred alternative through their participation in an ex officio capacity on the Salton Sea Advisory Committee. As described in Chapter 25 of the Draft PEIR, federal permits and approvals would be required for implementation of the Preferred Alternative. This may trigger NEPA compliance.

IID-6

As described in Chapter 1 of the Draft PEIR (see page 1-3), the ability to use the Salton Sea for a repository of agricultural drainage was protected when President Calvin Coolidge in 1924 and 1928 ordered specific sections of land under the Salton Sea to be withdrawn from settlement, location, sale, or entry, and reserved for the purposes of creating a drainage reservoir. At this time, there is no intent to change the Salton Sea as a repository for drainage water.

IID-7

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 . . . "

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IID-8

Early Start Habitat is identified for all alternatives. A suggested schedule for Early Start Habitat is provided in Chapter 3 of this Final PEIR. However, future implementation would require additional authorizing legislation and identification of an implementing agency. Implementation of Early Start Habitat would also require preparation of environmental documentation, permits, and land access along with detailed design plans and specifications. These actions would require involvement of various agencies and responsible parties and would take several years to complete.

Imperial Irrigation District
Comments on SSRP PEIR

3.4 **Freshwater Reservoir**.

A Freshwater Reservoir proposed by IID has been included in Alternative 7, but only as an optional facility and not as an integral part of the SSRP. The PEIR fails to recognize that the Reservoir is a beneficial Component which can: (a) assist in moderating inflow and elevation changes; (b) mitigate air quality impacts by providing a water cover for exposed shoreline at the southern end of the Sea; and (c) mitigate degradation of freshwater habitat values and recreational opportunities at the Sea. IID requests that the Freshwater Reservoir be assessed as an SSRP Component for these purposes, that it be included in the Preferred Alternative, and that it be considered an SSRP cost.

4. **Project-Level EIR**.

The PEIR defers assessment of numerous Project design details to a subsequent stage which includes one or more "project-level assessments". These subsequent assessments will further evaluate "design inflows, biological criteria, locations of facilities, water demands of components, surface water elevations and areas, types of Air Quality Management needed on Exposed Playa, seismic risks, availability of construction material, and acquisition of easements or deeds for lands affected by restoration activities" [at page 3-1]. The PEIR states that the combination and location of components should be evaluated during subsequent analyses, and these project-level analyses would be used to determine "specific sizes, locations, and salinity objectives" based upon "more detailed analysis of inflows, bathymetry, water quality, geology, habitat, sediment quality, and land ownership" [at page 2-26]. The PEIR also identifies serious concerns about the feasibility of Components and the effectiveness of mitigation measures, but defers resolution of these issues until the project-level stage. These details affect the analysis of Alternatives, the identification of environmental impacts, the assessment of the significance of environmental impacts, and the level of mitigation of those impacts.

We are concerned about the PEIR's failure to address sufficiently the process for subsequent assessment of these important details. We request DWR to clarify and confirm that the subsequent project-level assessment will be a project-level EIR and related CEQA process.

We recognize that a "programmatic" EIR can be used to avoid subsequent environmental assessment, where the programmatic document has sufficiently assessed the impacts of one or more of the actions included in the program. However, this PEIR is a different type of programmatic document—it provides a broad, feasibility-level analysis in order to assess a wide range of Alternatives. The PEIR makes an effort to identify features of each Alternative which permit broad comparisons. In many cases, however, these features are identified by applying uniform assumptions to all Alternatives, rather than by detailed study. The gaps in the PEIR analysis are extensive, and, as a result, it is difficult to make the key determinations which CEQA requires.

CEQA requires that a proposed project be assessed in detail and that alternatives and mitigation measures be identified which can reduce the significant impacts of the proposed project. The PEIR does not include this level of assessment, and nothing less than an EIR can provide the appropriate process for completing such an assessment. IID will need the

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As described in the Draft PEIR (see page 3-76), the purpose of the IID Freshwater Reservoir included in Alternative 7 is to provide for storage of Colorado River water for IID. The reservoir would be owned and operated by IID. Because the reservoir is at the conceptual level at this time and would not be developed for the purposes identified in the Salton Sea Restoration Act, it would not be considered beneficial to the Salton Sea Ecosystem Restoration Program.

The project description information provided by the SSA (see Appendix I of the Draft PEIR) does not substantiate the benefits described in the comment (see specifically, Data Needs From SSA, Request: March 17, 2006, Response: March 24, 2006).

IID-10

As stated in the Draft PEIR (see page 3-76), a freshwater reservoir could be added to any of the alternatives. However, there is not sufficient information on the operations or management of the reservoir to determine the potential habitat values or benefits at this time. Therefore, the State does not feel it is a necessary component for the restoration program. The inclusion of a freshwater reservoir could be considered during project-level analysis.

IID-11

The Resources Agency has a statutory mandate to prepare a programmatic environmental document (see Fish and Game Code Section 2081.7). Moreover, a programmatic approach under CEQA is used as a first tier environmental document to evaluate a series of inter-related actions that can be assessed as an integrated whole for the purpose of CEQA analysis. The level of detail and analysis in this Draft PEIR is programmatic in nature, and not project-level. As stated in the Draft PEIR one or more project-level analysis would need to be completed prior to implementation of a preferred alternative. However, implementation of a preferred alternative would require further legislative authorization, and the identification of an implementing agency.

opportunity to review the project-level EIR as a Responsible Agency and to comment effectively when relevant details are available, and we assume that review by other agencies and members of the public will be appropriate as well.

IID-12

5. **Interim Plan.**

The PEIR appears to assume that each Alternative would be implemented in its entirety, although in Phases. The PEIR should address whether it is feasible or desirable for any Components to be separated and constructed on a stand-alone basis, if necessary--for example, if approvals or funding for full implementation cannot be obtained, or if the feasibility of certain Components cannot be demonstrated, or if natural disaster such as earthquake intervenes.

IID-13

Also, given the substantial time period predicted for full implementation, the PEIR should address the risks and impacts of failure to fully complete the SSRP. The impacts of partial completion could vary among the Alternatives.

IID-14

Based on the schedule included in the PEIR, restoration will be substantially delayed. The PEIR anticipates that seven years (from 2007 to 2014) will be required to complete the project-level environmental assessment, complete the final design, obtain permits and other approvals, and finalize construction documents. Construction is also phased and most Components are not scheduled for completion until Phase II (2020-2030), resulting in a further substantial time period before the facilities are operational and the benefits of restoration realized.

IID-15

This schedule does not reflect the urgency conveyed by the State legislation authorizing Salton Sea restoration. If a feasible Preferred Alternative can be identified, IID recommends accelerating the design, assessment and implementation of Components on a faster schedule. The PEIR recognizes that certain Components (such as the Early Start Habitat and the Saline Habitat Complex) cannot be constructed until the Sea recedes. However, instead of simply waiting until recession occurs due to outside forces, the PEIR should consider early termination of delivery of mitigation water to the Sea and the transfer of (c)(1) and/or (c)(2) water to facilitate the early construction of beneficial shoreline Components [*see* Part 1, Section 6 of these Comments below].

IID-16

The PEIR fails to address measures which could be implemented, and impacts which could be avoided, during the interim period prior to full implementation of the SSRP. As noted above, the PEIR proposes to delay certain shoreline Components until the Sea recedes without considering the advantages of accelerating recession. Further, as discussed in more detail in Section 7 of these Comments, below, the PEIR does not anticipate introducing any AQM measures until the mid 2020s. Instead, it proposes to wait while the Sea recedes in three separate increments:

(1) During the period the shoreline recedes from -228 to -235 feet msl, which the PEIR attributes to "baseline" conditions, the PEIR assumes that the landowners will mitigate air quality impacts outside of the SSRP;

IID (cont.)

IID-12

See response to comment IID-3.

IID-13

The Resources Agency has been guided by the Salton Sea Restoration Act provisions that require certain specific priorities to be addressed in the ecosystem restoration study. These include habitat restoration, air quality management, and protection of water quality. However, there may be non-mandated actions that may or may not be feasible or desirable and, therefore, may be separated and constructed on a stand-alone basis. Although the Draft PEIR considers implementing the alternatives in their entirety, it does not preclude future project-level analysis from considering different timeframes for phasing or conducting an analysis to determine whether it is feasible or desirable for any of the components to be separated and constructed on a stand-alone basis.

IID-14

Although the comment is somewhat unclear, the Draft PEIR includes an analysis of the No Action Alternative, that is, the alternative that involves no restoration plan. CEQA does not require an analysis of the failure to fully complete a project.

The Fish and Game Code requires the Resources Agency to prepare a restoration study and to determine a preferred alternative for the restoration of the Salton Sea ecosystem and the protection of wildlife dependent on that ecosystem. A programmatic environmental document is required to be prepared, in consultation with the DFG, DWR, the SSA, and others. This statutory mandate has been met.

The Resources Agency is required to submit the study identifying a preferred alternative to the Legislature. Further legislative action, including identification of an implementing agency, would be required to pursue a restoration plan. If the Legislature gives direction to pursue restoration and identifies an implementing agency, that implementing agency would be responsible for completing the project-level environmental analysis, completing the final design, obtaining permits, and managing construction.

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IID-15

The State recognizes the urgency of restoration. However, future implementation would require additional authorizing legislation and identification of an implementing agency. Early Start Habitat is identified for all alternatives. The Draft PEIR provides an anticipated schedule for design, permitting, and construction of the alternatives, and an anticipated schedule for design, permitting, and construction of the Preferred Alternative is provided in Chapter 3 of this Final PEIR. Due to the ambitious nature and size of the project, and funding availability along with the issues that need resolution, it is anticipated that construction could not begin until 2011.

Once identified, the implementing agency could consider provisions that would allow for acceleration of the schedule. This may not include the transfer of (c)(1) and (c)(2) water. However, the Draft PEIR recognizes that the costs of the mitigation associated with the transfer of the (c)(1) and (c)(2) water could be substantial. As stated on page 3-81 of the Draft PEIR, ". . . the monetary benefit from the sale of (c)(2) or (c)(1) water does not appear to be significantly greater than the costs associated with the mitigations."

IID-16

The periods describing responsibilities for air quality management only apply to the No Action Alternative. As restoration actions occur, air quality management will be implemented as needed, depending on the recession of surface water levels and surface stability and air quality monitoring results. Phasing of restoration actions to minimize exposure of playa is addressed as part of the alternatives, and could be further developed in project-level analysis.

Accelerating the recession of surface water levels may hamper construction of some components that are critical features in many of the alternatives. Some components may require construction in the wet from barges that could not operate in shallow water conditions. In other cases, construction in the dry is desirable, and recession may be intentionally accelerated.

(2) During the period the shoreline recedes further from -235 to -248 feet msl), which the PEIR attributes to the Transfer Project, the PEIR assumes that Transfer Project air quality mitigation will be applied; and

(3) During yet another period of recession below -248 feet msl), while the SSRP Components are being implemented, the PEIR assumes that the landowners will again provide air quality mitigation.

This does not provide an acceptable plan for minimizing air quality impacts for the community surrounding the Salton Sea. Aside from the issue of who pays for what mitigation costs, there should be a plan, as part of the SSRP, for dealing with environmental impacts caused by the steadily degrading conditions at the Sea, as they occur, including both reduced wildlife values and public health issues. For example, if construction of the Early Start Habitat is accelerated, it would provide habitat for biological resources and, at the same time, reduce potential dust emissions from exposed shoreline emissions by providing water cover.

6. **Acceleration of Components.**

The PEIR anticipates that the Early Start Habitat will be constructed along the southern shoreline of the Sea between –228 and –232 feet msl, when the elevation recedes sufficiently [at page 3-32]. The PEIR indicates that the Early Start Habitat is intended to retain habitat values as those values in the Brine Sink decrease and to provide information that would assist in the design of the Saline Habitat Complex [at page 8-19]. The Early Start Habitat includes the development of flexible habitat cells and is intended to be designed so that affected shoreline can be converted to other uses in the future. The PEIR indicates that further assessment of this Component is needed but that it could be implemented "before 2011" if land required for implementation can be obtained [at page 3-6].

Given these purposes and design, IID believes that it will be beneficial to accelerate the environmental assessment, design and construction of the Early Start Habitat, so that construction of this Component can be commenced without waiting for final design and approval of other SSRP Components. This Component may also be sustainable and beneficial whether or not full implementation of other Components proceeds. In addition to facilitating the design of the Saline Habitat Complex, the Early Start Habitat could mitigate air quality impacts on exposed shoreline in the interim period prior to implementation of other Components.

7. **Air Quality.**

7.1 **Mitigation of Impacts.**

The State legislation authorizing the SSRP requires the preferred alternative to provide "the maximum feasible attainment" of three primary objectives, including the elimination of air quality impacts from the restoration project [SB 277 (2003), adopting the Salton Sea Restoration Act, Fish and Game Code § 2930 et seq.]. The PEIR acknowledges this objective [at page 1-2].

IID-16 cont.

IID-17

IID-18

IID (cont.)

IID-17

The Draft PEIR includes a discussion of air quality impacts in Chapter 10 and Appendix E and H-3. Chapter 3 of both the Draft PEIR and the Final PEIR identifies a potential range of Next Steps (i.e., mitigation measures) to address air quality impacts of the restoration program. As described in the Draft PEIR, most of the alternatives do not meet the local, State, and federal air quality requirements. In the project-level analysis, measures such as those described in the Next Steps in Chapter 10 could be required prior to implementation in accordance with local, State, and federal permitting requirements. Addressing air quality impacts of the restoration plan would be a necessary component for project-level analysis.

IID-18

See response to comment IID-8.

Nevertheless, the PEIR predicts significant air quality impacts for each of the Alternatives, as a result of both emissions from exposed shoreline and emissions from construction activities. These impacts vary in scale from one Alternative to another, but, for each Alternative, they exceed the impacts projected for the No Action Alternative by an amount that ranges from a factor of 5 to 200 times the No Action impacts. The amount of shoreline exposed varies under the PEIR Alternatives from 83,000 acres to 131,000 acres. The PEIR predicts that, due to wind conditions, air quality emissions will exceed state and federal standards along the southern shoreline of the Sea, within the Imperial Valley.

The PEIR also concludes that, although certain costly AQM measures are assumed to be implemented with each Alternative, the feasibility and effectiveness of mitigation measures are uncertain, for both shoreline and construction emissions. This is a serious concern for IID and Imperial Valley residents. In addition, although AQM measures are included in the cost estimates, these estimates do not include mitigation measures for the significant construction emissions which are predicted. **IID-19**

Based on these PEIR conclusions, IID maintains that all feasible AQM measures should be required for each Alternative. The PEIR should clarify that the SSRP will assume responsibility for shoreline exposed by the SSRP or for land acquired for SSRP purposes. Currently, the PEIR is vague and confusing on the extent of AQM included in the Alternatives; *see*, for example, the statements that Alternative 1 will include AQM below –230 feet msl, but there is "potential IID liability" for some portion [at page 3-63] and the statements that AQM below –230 feet msl would be "considered" for Alternatives 3 and 6 [at pages 3-67, 3-73]. In addition, we do not understand why the PEIR includes Alternatives which do not incorporate all feasible AQM measures (Alternatives 4-7)[*see* pages 10-29, 10-86]. Since both CEQA and the State legislation require that feasible mitigation measures be adopted to address significant impacts, what is the justification for constructing an Alternative which does not include them? **IID-20** **IID-21**

A key criterion for selecting the Preferred Alternative should be the extent to which the Alternative can reduce air quality impacts. Currently, the PEIR does not appear to suggest that any preference would be given to Alternatives which minimize these impacts. In addition, the PEIR should assess how siting and re-locating facilities, and other changes to the design and configuration of Alternatives, could enhance air quality mitigation. For example, since serious air quality impacts are predicted along the southern shoreline, the location of water, habit areas, or facilities which cover exposed shoreline in the south should be assessed and preferred. **IID-22**

The PEIR clearly indicates that, regardless of its assumptions regarding the emissiveness of exposed shoreline, it is uncertain what the impacts will be and whether and how they can be mitigated. The SSRP should develop a coordinated plan for accelerated study of the nature and extent of potential air quality impacts from exposed shoreline and the availability and effectiveness of feasible mitigation measures. The PEIR acknowledges that its analysis of shoreline emissions is based on limited studies and that further analyses are needed: to study the composition of fugitive dust and the conditions that cause stability/instability of the salt crust; to identify the best control mechanisms; and to improve emissions estimation, exposure and health impact analysis, and mitigation planning [at page 10-86]. Given the potential scale of the **IID-23**

IID (cont.)

IID-19

The Draft PEIR assumed the use of standard construction emission mitigation measures (See Chapter 3, Table 3-1, and Chapter 10, page 10-35 and Table 10-14). These assumptions provided a common basis for comparison of impacts for all alternatives. To provide a detailed air quality mitigation and monitoring strategy for each alternative is beyond the scope of the Draft PEIR. Mitigation measures tailored to address significant impacts from specific emission sources or practices would need to be evaluated and developed in project-level analysis.

IID-20

According to rules and regulations of the applicable air quality agencies, requirements for air quality management of emissive land areas in the Salton Sea Air Basin would be the responsibility of the landowner. In this case, the air agency rules and regulations for landowner responsibility would apply only to areas not affected by the IID Water Conservation and Transfer Project (Transfer Project) or the ecosystem restoration program's Preferred Alternative.

IID-21

As described in the Draft PEIR (see page 3-68 and page 3-75), Alternatives 4 and 7 are based on the information provided by the Imperial Group and the SSA, respectively. As suggested by the Salton Sea Advisory Committee (see January 31, 2006 meeting notes), these proposals were included as proposed by the SSA and the Imperial Group and were not modified to meet all of the objectives of the legislation equally.

IID-22

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: (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 projects. (3) Protection of water quality." The Preferred Alternative includes implementation of the actions in the air quality management "tool box." Additional measures, including locating facilities on areas that may be highly emissive, could be considered during project-level analysis.

See Chapter 3 of this Final PEIR for additional information on the selection of the Preferred Alternative.

IID-23

As described in Chapter 3 of this Final PEIR, a variety of actions have been

problem, an "early start" study of the scope of air quality impacts and mitigation should be commenced. This study should also address the feasibility of mitigating construction emissions.

IID-23 cont.

7.2 Impacts Attributable to Transfer Project.

The PEIR states, without qualification: "Implementation of the QSA and the related IID Water Conservation and Transfer Project would result in the additional exposure of playa between –235 and –248 feet msl." Similar statements appear in other places in the PEIR. Please clarify that this is an estimated amount of exposure based upon modeling conducted for the Transfer Project and the PEIR. The Transfer Project is likely to result in exposed shoreline as a result of water conservation activities included in that project, but the impacts of the Transfer Project have not been legally defined by an area on the ground between elevations –235 and –248 feet msl.

IID-24

7.3 Responsibility for Air Quality Mitigation.

Similarly, the PEIR is misleading in describing the responsibility for air quality mitigation by reference to exposed shoreline in fixed elevation increments around the Sea. That is, the PEIR states that the Transfer Project will be responsible for air quality mitigation on exposed shoreline between –235 and –248 feet msl and that landowners will be responsible for air quality mitigation on two increments of exposed shoreline above and below the Transfer Project increment—i.e., shoreline between –228 and –235 feet msl and below –248 feet msl [at page 10-37]. These statements convert hydrological projections of future conditions into fixed lines in the sand. While this device may assist the reader in understanding the expected extent of shoreline exposure, it is still based upon modeling and estimates and is not a legal basis for assigning mitigation responsibility.

IID-25

Moreover, the PEIR assumes that the landowner and Transfer Project increments will be exposed first, and that the SSRP can avoid implementation of any AQM measures until the mid 2020s. This analysis is apparently designed in part to delay and reduce mitigation costs for the SSRP.

IID-26

We call to your attention that, in addition to limitations on Salton Sea restoration costs and QSA mitigation costs established by State legislation for IID's benefit, Section 1013 of the State Water Code exempts IID from liability for effects in an around the Salton Sea attributable to non-project water conservation [*see* SB 314 (2003), restating and amending Water Code § 1013].

IID-27

IID requests that the PEIR include a better approach to air quality impacts and mitigation. We need a plan. As discussed above, the SSRP should develop, first, a coordinated plan for accelerated study of the nature and extent of potential air quality impacts from exposed shoreline and the availability and effectiveness of feasible mitigation measures. This study should be commenced in the early stages of the SSRP, so that the means of avoiding or mitigating air quality impacts will be available before the impacts occur. Second, the SSRP should develop a coordinated plan for implementing effective air quality mitigation as the shoreline recedes.

IID-28

IID (cont.)

IID-23 (cont.)

identified that could be implemented within the five year timeframe after the Legislature approves a preferred alternative and identifies an implementing agency. These actions include measures specifically targeted to address air quality uncertainties.

IID-24

As described on page 3-1 and Table 3-1 of the Draft PEIR, all of the results from the inflow modeling are provided for comparative purposes only. These results provide estimated amounts of exposure based on modeling conducted for the Transfer Project Final EIR/EIS and the Draft PEIR. The text on page 3-56 has been modified to indicate that these results are estimates.

IID-25

See response to comment IID-24.

IID-26

The exposed shoreline increments referred to in this comment would occur under the No Action Alternative, and therefore would be the responsibility of the landowner or the Transfer Project, as appropriate (see page 3-57 of the Draft PEIR).

Contrary to the commenter's statement that the analysis is designed to delay and reduce mitigation costs, the Resources Agency is fulfilling its statutory mandate.

IID-27

Water Code Section 1013 speaks for itself. The Resources Agency acknowledges that State legislation limits IID's Salton Sea restoration costs and IID's QSA mitigation costs.

IID-28

See response to comment IID-23.

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8. **Land Acquisition.**

The PEIR indicates that substantial land acquisition (by deed or easement) will be necessary to implement SSRP Alternatives. The Early Start Habitat requires 2,000 acres of land along the southern shoreline [at page 3-6], which is owned by IID. The PEIR assumes that implementation of the SSRP will require acquisition of the entire Sea bed below –228 feet msl [at page 3-2], which includes substantial acreage owned by IID, the federal government and the Torres Martinez Tribe.

IID-29

The PEIR fails to analyze the feasibility of such land acquisition and defers this analysis to the subsequent project-level studies. With respect to IID land, the PEIR simply assumes that it will be available [at page 2-26]. The PEIR also fails to include land costs in the cost estimates prepared to evaluate the Alternatives. IID's obligation to fund restoration costs is capped [*see* Part 1, Section 10 of those Comments below], and IID is not required to contribute land to the restoration process for free. The PEIR also fails to indicate any schedule for land acquisition. The PEIR seems to assume that IID will hold its land, assume liability for air quality mitigation, and then turn it over to the SSRP in phases as it is needed for restoration. IID requests that the PEIR provide a cost and feasibility analysis and a plan and schedule for acquisition of land from third parties.

9. **Consistency with Transfer Project/QSA.**

9.1 **Transfer Project/QSA.**

As used in these comments, the "Transfer Project" means the IID Water Conservation and Transfer Project, as assessed in the Final EIR/EIS dated June 2002, as modified and supplemented by the Addendum thereto dated September 2003. The Transfer Project includes a proposed Habitat Conservation Plan ("HCP") which provides mitigation for impacts of the water conservation activities on biological resources within the Imperial Valley and the Salton Sea. IID is the CEQA Lead Agency for implementation of the Transfer Project. The Transfer Project includes all obligations of IID under the Quantification Settlement Agreement ("QSA"). The Transfer Project was approved by IID concurrently with the QSA. The Transfer Project is a component of the QSA as assessed in the Final Program EIR for the QSA dated June 2002, as modified and supplemented by the Addendum thereto dated September 2003.

9.2 **HCP/NCCP.**

IID is currently processing the approval of the HCP as a combined HCP/NCCP under both Section 10 of the federal Endangered Species Act ("ESA") and under the state Natural Community Conservation Planning ("NCCP") Act [Fish and Game Code § 2800 et seq.]. The PEIR states that the potential conflict or consistency of SSRP Alternatives with the HCP/NCCP is not addressed, because the HCP/NCCP has not been finally adopted [at page 8-18].

IID-30

IID objects to this cavalier dismissal of the proposed HCP/NCCP given its key function to address impacts of the Transfer Project on the Sea. The conditions allowing the take of fully-protected species in connection with the Transfer Project were specifically addressed in

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IID (cont.)

IID-29

As described in page 3-2 of the Draft PEIR, the No Action Alternative and Alternatives 1 through 8 assume that easements or deeds would be obtained for the entire Sea Bed from -228 feet msl to allow construction and operations and maintenance. However, costs of acquisition of easements and deeds and a schedule for this are not included in the cost estimates provided in the Draft PEIR because these costs and schedules would be the same under all of the alternatives and would not help to differentiate between alternatives.

Chapter 11 of the Draft PEIR includes an analysis of the potential land use impacts of the alternatives, including the degree to which the use is consistent with the current General Plan land use designations. This analysis was conducted to the level of detail appropriate for a programmatic environmental document.

IID-30

Rather than dismissing the Transfer Project Draft Habitat Conservation Plan (HCP), the Salton Sea Ecosystem Restoration Program incorporates the Draft HCP measures associated with the Transfer Project approvals into the Existing Conditions and No Action Alternative.

To determine the significance criteria, the Resources Agency followed the CEQA convention in Appendix G that a significant impact would exist if the Salton Sea Ecosystem Restoration Program conflicts with provisions of an adopted HCP, Natural Communities Conservation Plan (NCCP), or other approved local regional or state habitat conservation plans. The IID proposed Draft HCP/NCCP has not been adopted.

The Resources Agency respectfully disagrees with the stated reason for delay in the preparation of the HCP/NCCP.

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the State legislation designed to implement both the QSA and the SSRP [*see* SB 317 (2003), adopting Fish and Game Code Section 2081.7]. This legislation evidences the importance of the HCP/NCCP to State objectives by requiring the development and implementation, in cooperation with State and federal agencies, of an adaptive management process that substantially contributes to the long-term conservation of the species for which take is authorized.

In addition, it is misleading to suggest that the HCP has not been adopted. The HCP/NCCP will be substantially consistent with the Draft HCP assessed as part of the Transfer Project and attached to the Final EIR/EIS certified in June 2002. The conservation/mitigation measures set forth in the Draft HCP have been adopted: (a) by IID as CEQA mitigation measures, (b) by the SWRCB as conditions to its Order approving the Transfer Project, and (c) by CDFG as conditions to it CESA Permit. As a result, implementation of the Draft HCP is an approved and integral part of the No Action Alternative. IID has spent substantial sums both to implement provisions of the Draft HCP and to finalize the NCP/NCCP. Substantial consultation with THE California Department of Fish and Game ("CDFG") and the U.S. Fish and Wildlife Service ("USFWS") has occurred and is ongoing regarding the final details of the plan. The delay in finalizing the HCP/NCCP is substantially attributable to the State's requirement that the document satisfy more expansive criteria for HCPs required under the NCCP Act. The proposed HCP/NCCP includes numerous measures for the protection of biological resources deemed important to the restoration effort (such as pupfish). Virtually every NCCP Planning Agreement requires the participating agencies to consider the effects of its interim actions on its ability to implement the proposed NCCP, so we fail to understand why the State has concluded that it does not have to assess the effects of its restoration activities on the proposed HCP/NCCP. IID is particularly interested in interrelationships between its proposed measures and restoration activities which could produce enhanced benefits, reduced costs, or accelerate implementation.

IID-30 cont.

9.2 **Significant Impact Determinations.**

The PEIR assesses the significance of the No Action Alternative for each resource area. The most prominent "project" included in the No Action Alternative is the Transfer Project. The No Action Alternative, especially the Variability Conditions version, also includes a number of other conditions, events and activities outside the control of IID, which have the cumulative effect of reducing inflows and exposing Sea shoreline, according to the PEIR. The Transfer Project EIR/EIS appropriately evaluated the significance of impacts after applying required mitigation measures. Based upon our review of the PEIR, it is not clear: (a) whether the impact Tables in the PEIR assume implementation of the mitigation measures included as part of the Transfer Project; (b) whether the PEIR determinations of "Significant Impact" are made after application of those mitigation measures; and (c) whether the findings of "Significant Impact" applied to the No Action Alternative relate to the Transfer Project or other components of the No Action scenario. Please clarify so that we can determine whether the PEIR analysis is consistent with the significance determinations previously applied to the Transfer Project. This comment applies to significance determinations made with regard to Surface Water Quality, Biological Resources, Geology, etc., Air Quality, Land Use, Recreation, Cultural Resources, Paleontology, Noise, Visual Resources, Public Services and Utilities

IID-31

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IID (cont.)

IID-31

As described in Chapters 3 and 4 of the Draft PEIR, the No Action Alternative includes implementation of the Transfer Project and its related mitigation measures. Therefore, the impact tables in the Draft PEIR assume implementation of the mitigation measures included as part of the Transfer Project. For all environmental resource areas, the Draft PEIR determinations of significant impacts are made after the application of the Transfer Project's mitigation measures, except for implementation of air quality management actions.

The Draft PEIR takes a conservative approach for air quality management and assumes that the first three steps of the "four step air quality plan" identified in the Transfer Project mitigation measures resulted in the need for implementation of step four. The four step air quality plan is described in Chapter 3 of the Draft PEIR (see page 3-56). Therefore, the impacts described in the Draft PEIR for the No Action Alternative are primarily related to the construction of the Transfer Project air quality mitigation measures. The construction impacts of the air quality mitigation measures would occur across most of the other resources areas for all of the alternatives. These impacts would also occur under the No Action Alternative, and the findings of the significant impacts under the No Action Alternative reflect this.

The air quality assumptions used in the Draft PEIR were developed to provide an equal basis for comparison among all alternatives. The State recognizes that this is a conservative, worst-case scenario approach, and is predicated on the potential construction impacts that would occur under this scenario. These assumptions were made for the purposes of the Draft PEIR and it is recognized that IID is responsible for the implementation of the air quality mitigation measures identified for the Transfer Project. The State recognizes that IID may choose to take a different approach than assumed by the Resources Agency for the purposes of the Draft PEIR.

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10. **Funding Plan.**

The State legislation requires the restoration study to include a proposed funding plan to implement the Preferred Alternative [SB 377 (2003), adopting Fish and Game Code Section 2081.7(e)(2)]. Please clarify when this portion of the assessment will be completed. **IID-32**

The Funding Plan included in the PEIR [at page 1-11] is vague and uninformative as to whether and when sufficient funds will be available for any of the Alternatives. This is a serious concern in light of the very substantial sums indicated in the cost estimates for the Alternatives. **IID-33**

The only specific funds identified in the Funding Plan are four potential sources of funds from water agencies, which are provided for under the State legislation. IID and the other water agencies have entered into binding contractual agreements providing for the payment of the $30 million contribution allocated to those agencies. Funds from the other three other sources are potentially unavailable. MWD is required to pay not less than $20/acre foot for water received as "special surplus water", but MWD has not requested any such water and may never do so. IID is obligated to pay 10% of monies received by IID for additional water transfers, but the IID Board has indicated no interest in future water transfers out of the Imperial Valley. Finally, it makes no sense to include the proceeds of sale of (c)(1) and (c)(2) water from IID to DWR as a source of funds, since the PEIR declines to include these transfers as part of any of the Alternatives, on the basis of the impacts of the transfers on Salton Sea salinity and elevation [*see* Part 1, Section 11 of these Comments, below]. **IID-34**

We confirm and reiterate the PEIR's reference to the funding limitations applicable to IID. The State legislation [SB 654 (2003), amending Section 1 of Chap. 617 (2002 Stats.) states unequivocally that:

> ". . . no further funding obligations or in-kind contributions of any kind for restoration of the Salton Sea shall be required of the Imperial Irrigation District. . . . Any future state actions to restore the Salton Sea will be the sole responsibility of the State of California."

The QSA Joint Powers Authority Creation and Funding Agreement ("QSA JPA Agreement"), Section 3.2 provides:

> "Environmental Mitigation Requirements in excess of $30 million "or any funding obligation or in-kind contributions of any kind for restoration of the Salton Sea, including federal cost-sharing or other federal requirements, shall be borne exclusively by the State and sources other than [IID, CVWD, and SDCWA]".

It is not appropriate for the PEIR to rely upon any additional contributions by IID for restoration purposes, such as actions implementing TMDLs which advance restoration objectives, air quality mitigation for shoreline exposed by TMDL implementation measures, or transfer of lands for restoration purposes without appropriate compensation. **IID-35**

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IID (cont.)

IID-32

The Funding Plan was not included in the Draft PEIR. Page 1-11 of the Draft PEIR, under the heading "Funding of Restoration Plan," provides a description of the Fish and Game Code requirements and is not the actual Funding Plan. However, the Funding Plan was prepared subsequent to the issuance of the Draft PEIR and is being distributed separately from this Final PEIR.

IID-33

See response to comment IID-32.

IID-34

See response to comment IID-32.

IID-35

The Draft PEIR does not rely upon IID for any additional contributions beyond those already identified in existing agreements, laws, IID's obligations under the Transfer Project and the QSA, and other regulatory obligations. The Resources Agency views implementation of TMDLs as an independent action that is outside of the scope of the Salton Sea Ecosystem Restoration Program.

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11. **IID/DWR Transfers.**

The PEIR describes the provisions of the State legislation authorizing the transfer of up to 1.6 million acre-feet of water from IID to DWR for sale by DWR to MWD [SB 317 (2003), adopting Fish and Game Code § 2081.7(c)]. The PEIR describes DWR's responsibility for mitigating certain environmental impacts related to transfer of the (c)(1) and (c)(2) water pursuant to the State legislation. However, the legislation has been supplemented by the terms of the contractual agreement executed by IID and DWR pursuant to the legislation, identified as "Agreement between the Imperial Irrigation District and the Department of Water Resources for the Transfer of Colorado River Water," dated October 10, 2003 ("IID/DWR Transfer Agreement"). The IID/DWR Transfer Agreement specifies in detail the governing terms and conditions and the obligations of the parties for mitigation.

The discussion of the potential water transfers from IID to DWR does not reflect the fact that the maximum available amount of (c)(2) water is 800,000-acre feet minus the amount of mitigation water delivered to the Salton Sea pursuant to the mitigation measures for the Transfer Project. IID will continue to make annual deliveries of mitigation water in accordance with the schedule required by the permits and approvals for the Transfer Project, unless and until all conditions precedent to the transfer of this water to DWR have been satisfied, including completion of environmental assessment and issuance of permits. The maximum amount of (c)(2) water available for transfer to DWR is the unused balance of the mitigation water at that time.

IID-36

Based upon the IID/DWR Transfer Agreement, DWR is responsible for providing the required environmental assessment and for obtaining all required permits and approvals for this transfer. IID anticipated that, whether or not DWR elects to proceed with these transfers, the PEIR would include the environmental assessment necessary to permit the transfers pursuant to CEQA. We do not think the PEIR includes such an assessment and we ask DWR to clarify its intent. The required environmental assessment will likely tier off the Final EIR/EIS for the Transfer Project, as modified and supplemented by the 9/03 Addendum thereto, as well as the PEIR.

IID-37

The 9/03 Addendum to the Final EIR/EIS for the Transfer Project describes the delivery of mitigation water to the Sea for a 15-year period as part of the Salton Sea Habitat Conservation Strategy included in the Draft HCP for the Transfer Project. It also describes the relationship between this water (referred to as the "Mitigation Increment") and the transfer of (c)(2) water to DWR and the subsequent environmental assessment which is required:

> "In order for DWR to change the use of the balance of the Mitigation Increment at any time during the 15-year period during which it is committed to the Salton Sea pursuant to the refined Salton Sea Habitat Conservation Strategy, the following conditions must be satisfied, without any cost or liability for IID: (1) the Secretary of the Resources Agency, in conjunction with CDFG, DWR, the Salton Sea Authority, appropriate air quality districts, and the Salton Sea Advisory Committee, must have completed a restoration study to determine a preferred alternative for Salton Sea

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IID (cont.)

IID-36

The Resources Agency acknowledges that the maximum available (c)(2) water is 800,000 acre-feet minus the amount of mitigation water delivered to the Salton Sea pursuant to mitigation for the Transfer Project.

IID-37

The Draft PEIR does not include an environmental assessment of the (c)(1) and (c)(2) water. As described in Chapter 3 of the Draft PEIR, the transfer of the (c)(1) and (c)(2) water is not part of any of the alternatives for the reasons so described. At this time, DWR has no plans to pursue the (c)(1) and (c)(2) water transfers.

IID (cont.)

restoration, as described in Section 2081.7(e)(1), together with the environmental assessments required for the restoration plan under applicable law; (2) the Secretary of the Resources Agency must have determined that the transfer of the Mitigation Increment balance is consistent with the preferred alternative for Salton Sea restoration, as required by Section 2081.7(e)(2)(C); (3) the Secretary of the Resources Agency (or DWR) must have completed and certified an appropriate environmental assessment of the impacts of conservation of the Mitigation Increment balance by IID (by conservation methods selected by IID) and of the use and transfer of the Mitigation Increment balance as proposed by DWR and also must have obtained all necessary governmental permits and approvals therefor (including, to the extent required, the approval of CDFG, USFWS and SWRCB), without the requirement for IID to provide any mitigation water to the Salton Sea in connection with the transfer of the Mitigation Increment balance; and (4) the Secretary of the Resources Agency (or DWR) must have assumed responsibility for all environmental mitigation measures required under the environmental assessments and the permits and approvals applicable to the conservation, use and transfer of the Mitigation Increment balance, including impacts on Salton Sea salinity; and (5) the Secretary of the Resources Agency (or DWR) must have relieved IID and the QSA participating agencies from, or have assumed, their respective obligations to implement the Salton Sea Habitat Conservation Strategy and other mitigation measures and permit conditions related to the Proposed Project that are facilitated by the delivery of the Mitigation Increment to the Salton Sea." [at 1-16]

IID-37 cont.

The 9/03 Addendum also describes the subsequent environmental assessment required to transfer the (c)(1) water (referred to as the "Restoration Increment"):

"In order to acquire any portion of the Restoration Increment, however, the following conditions must be satisfied, without any cost or liability for IID: (1) the Secretary of the Resources Agency, in conjunction with CDFG, DWR, the Salton Sea Authority, appropriate air quality districts, and the Salton Sea Advisory Committee, must have completed a restoration study to determine a preferred alternative for Salton Sea restoration, as described in Section 2081.7(e)(1), together with the environmental assessments required for the restoration plan under applicable law; (2) the Secretary of the Resources Agency must have determined that the transfer of the Mitigation Increment balance is consistent with the preferred alternative for Salton Sea restoration; (3) the Secretary of the Resources Agency or DWR must have completed and certified an appropriate environmental assessment of the impacts of the conservation of the Restoration Increment by IID

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(by conservation methods selected by IID) and of the use and transfer of the Restoration Increment as proposed by DWR and also must have obtained all governmental permits and approvals therefore; and (4) DWR must have assumed the responsibility for all environmental impacts, including Salton Sea salinity impacts, related to the conservation, use or transfer of the Restoration Increment, and the responsibility for performance of all mitigation measures for such impacts required under the environmental assessments and the related permits and approvals." [at 1-17]

Part 2: SPECIFIC TEXT COMMENTS

This Section includes comments on specific provisions of the PEIR text, in addition to the issues discussed above.

Page Reference	Comment
1-7	The PEIR indicates that snags for roosting and nesting by fish-eating birds would disappear by 2020 as the Salton Sea recedes. This discussion does not acknowledge the mitigation measures required for the Transfer Project pursuant to the Final EIR/EIS and applicable permits. *See*, for example, CESA Incidental Take Permit No. 2081-2003-024-006 [at 78-80] which provides for the construction of at least two roost sites for brown pelicans along the Southern California coast and for the creation of roost structures to permit forage at the river and drain mouths in the Salton Sea. This permit condition provides: "Because the restoration alternative adopted for the Salton Sea may affect the pelican, after the submission of the restoration study to the Legislature, IID may request to need and confer regarding the Condition of Approval pertaining to brown pelican. If in the sole discretion of the Department, it is appropriate to modify this Condition of Approval as a result of the restoration alternative adopted for the Salton Sea, this Condition of Approval may be modified with Permittee's consent." Please clarify the effect of the proposed Alternatives on these existing mitigation measures for the brown pelican.
1-9	Please explain the meaning of the last sentence of the section entitled "Water Transfers", which states: "The PEIR analyzes the impact of the transfer of water that is currently being used to mitigate impacts of the QSA on the Salton Sea ((c)(2) water) and describes the plan for the use of this water." As discussed in Part 1, Section 11 of these Comments, above, the PEIR does not include, as a Component of any of the Alternatives, a modified use for the mitigation water

IID-38

IID-39

IID (cont.)

IID-38

Page 1-7 of the Draft PEIR provides a description of the future of the Salton Sea without restoration. Without additional actions, many of the snags for roosting and nesting are estimated to disappear by 2020.

The Resources Agency acknowledges that IID's California Endangered Species Act incidental take permit includes a condition which allows IID, after the submission of the Salton Sea Ecosystem Restoration Study to the Legislature, to request to meet and confer with DFG regarding a permit condition regarding the brown pelican. If in the sole discretion of DFG, as a result of the restoration alternative adopted for the Salton Sea, it is appropriate to modify the brown pelican permit condition, DFG may do so, with IID's consent. No restoration alternative has been adopted for the Salton Sea. The Salton Sea Ecosystem Restoration Program's Draft and Final PEIR do not affect existing mitigation measures under existing permits.

IID-39

The analysis of the water transfer is in Chapter 3 of the Draft PEIR, starting on page 3-81. The analysis conducted on the transfer of (c)(1) and (c)(2) water was limited to the impact on each of the Salton Sea Ecosystem Restoration Program alternatives of transferring this water.

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	currently being delivered by IID as part of the Transfer Project.
1-9	The PEIR acknowledges the requirement of the State legislation that the restoration study include "at least one most cost-effective, technically feasible alternative" [SB 317 (2003), adopting Fish and Game Code § 2081.7(e)(2)A)] . Please explain where this legislative requirement is satisfied in the document.
1-11	As discussed above, the (c)(2) water will be less than the maximum amount of 800,000-acre feet. This will affect revenues from sale of that water, if it is acquired by DWR and conveyed to MWD.
2-4	The PEIR describes that implementation of the No Action Alternative would have an overall affect of reducing inflows to the Salton Sea as compared to Existing Conditions. It should be clarified that this overall effect (which is reflected in the projection of inflows of 795,000 acre-feet/year under the No Action Alternative – Variability Conditions), is an estimate or projection, and not a reflection of actual measured effects. The estimate assumes inflow changes caused by variable factors which are not typically described as a "project" for CEQA purposes (e.g., climate changes, changes in cropping patterns, etc.).
2-8	The statement that surplus water cannot be delivered to the Sea for the benefit of fish and wildlife is not accurate. *See* Revised Order WRO 2002-0013, issued by the State Water Resources Control Board ("State Board") approving the Transfer Project, which provides that IID may use Colorado River water for fish and wildlife purposes consistent with California law.
2-28,-29	The PEIR indicates that Alternative 4 (Concentric Lakes) is based on the Imperial Group's proposal and Alternative 7 (Combined North and South Lakes) is based upon the Salton Sea Authority's plan. We understand that both the Imperial Group and the Salton Sea Authority have modified the version of their plans assessed in the PEIR. Please clarify whether the effects of these changes have been sufficiently assessed in the PEIR to allow their consideration in the selection of the Preferred Alternative.
3-4	The PEIR assumes that the No Action Alternative includes AQM measures designed to mitigate impacts of the Transfer Project. The scope and cost of this AQM is determined in the PEIR using the same assumptions applied to the other Alternatives, for comparison purposes. However, the No Action Alternative literally means that the State will not be implementing activities under this scenario, including mitigation activities. Implementation of air quality mitigation pursuant to the permits and approvals for the Transfer Project is the responsibility of IID as the Lead Agency, subject to applicable permit conditions and reimbursement of costs pursuant to the QSA JPA Agreement.
3-10	Please clarify the meaning of this statement: "Under implementation of the QSA, there will be three actions that will be modified in the PEIR Alternatives." We understand that certain assumptions have been made with respect to the No Action

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IID-40
IID-41
IID-42
IID-43
IID-44
IID-45
IID-46

IID (cont.)

IID-40

The discussion of the most cost-effective, technically feasible alternative is included in Chapter 3 of this Final PEIR.

IID-41

See response to comment IID-36.

IID-42

The discussion on page 2-4 of the Draft PEIR indicates that the flows could range from 964,500 to 795,000 acre-feet/year and includes a reference to Chapter 5 that includes a discussion of the hydrologic modeling.

IID-43

The commenter has identified a larger legal issue that is outside of the scope of the Draft PEIR. However, the SWRCB Revised Water Rights Order (WRO) 2002-13 addresses the use of Colorado River water for fish and wildlife purposes under IID's present perfected rights. The SWRCB Revised WRO 2002-13 specifically does not address the general use of Colorado River water, which may be obtained by means other than IID's present perfected rights, for fish and wildlife purposes (see page 48 of the Revised WRO 2002-13).

IID-44

The modifications have not been evaluated as "complete" alternatives in the Draft PEIR. However, the modifications are within the range of alternatives and configurations evaluated in the Draft PEIR and do not preclude Alternatives 4 and 7 from being selected as the preferred alternatives because these modifications could be considered during project-level analysis as mitigation measures.

IID-45

The State agrees with the information provided in the comment. See response to comment IID-31.

IID-46

The Draft PEIR assumes implementation of the Transfer Project and QSA, including the associated mitigation measures and permitting requirements. As noted by the commenter, certain assumptions have been made with respect to how some of the obligations under the Transfer Project and QSA would be implemented. These assumptions were made for the purposes of analysis in the Draft PEIR and do not change IID's responsibilities.

	Alternative to allow comparison with Alternatives 1-8. It is not clear, however, what changes to the Transfer Project/QSA are presumed to be made if restoration is implemented.
3-56	The PEIR states that the State of California "accepted responsibility for some of the environmental mitigation costs that exceed $133,000,000.00" [emphasis added]. This sentence suggests more limitations on the State's responsibility than actually exist. Section 3.2 of the QSA JPA Agreement states: "The Environmental Mitigation Cost Limitation and Salton Sea Restoration Limit have been established pursuant to subparagraph (1) of subdivision (b) and subdivision (c) of Section 3 of SB 654. The Authority shall have no power to incur any debt, liability or obligation that would directly or indirectly result in any liability to the CVWD, the IID or the SDCWA in excess of the Environmental Mitigation Cost Limitation or the Salton Sea Restoration Limit. The liability for any Environmental Mitigation Requirements in excess of the Environmental Mitigation Cost Limitation or any funding obligation or in-kind contributions of any kind for restoration of the Salton Sea, including federal cost-sharing or other federal requirements, shall be borne exclusively by the State and sources other than the CVWD, the IID or the SDCWA, except for restoration funding provided pursuant to the requirements of subdivision (c) of Section 2081.7 and subdivision (f) of Section 1013 of the Water Code."
3-56	The discussion of modification of AQM actions under the No Action Alternative is confusing. The 4-step Air Quality Mitigation Plan approved as part of the Transfer Project addresses impacts resulting from that project. In addition to requirements for study and monitoring, that Plan requires the implementation of feasible mitigation measures to address air quality impacts. Is the PEIR proposing an "expansion" of this level of mitigation, and, if so, is this simply for comparison purposes or for proposed implementation under specific Alternatives? As discussed above, current information does not support a definitive conclusion regarding the extent of exposed shoreline, the extent of emissive shoreline, or the extent of air quality mitigation needed to satisfy state and federal standards. We have recommended the acceleration of studies to provide supporting information, particularly the development of feasible mitigation measures. Until that occurs, it should be understood that the air quality scenarios projected in the PEIR are based upon estimates considered by the PEIR preparers as "worst case".
3-57	Please clarify whether the PEIR has considered the pupfish mitigation measures which are required to be implemented as part of the Transfer Project. The CESA permit conditions [at pages 98-102] require that an appropriate level of connectivity be maintained between pupfish populations within individual drains at the north and south ends of the Sea, that IID develop a detailed plan for insuring genetic interchange among the pupfish populations in the drains, and that IID

IID-46 cont.

IID-47

IID-48

IID-49

IID (cont.)

IID-47

The Draft PEIR correctly characterizes the State's obligations for the environmental mitigation costs. Section 3.2 of the QSA Joint Powers Authority (JPA) Agreement reads as cited by the commenter. Section 9.2 of the QSA JPA Agreement, however, provides that the amount of such costs and liabilities shall be determined by the affirmative vote of three of the QSA JPA commissioners, including the commissioner representing the State, which determination shall be reasonably made.

IID-48

The Draft PEIR is not proposing an expansion of this level of mitigation. However, the Draft PEIR takes a conservative approach for air quality management and assumes that the first three steps of the "four step air quality plan" identified in the Transfer Project mitigation measures would result in the need for implementation of step four. The air quality assumptions used in the Draft PEIR were developed to provide an equal basis for comparison among all alternatives. The State recognizes that this is a conservative, worst-case scenario approach, and is predicated on the potential construction impacts that would occur under this scenario. These assumptions were made for the purposes of the Draft PEIR and it is recognized that IID is responsible for the implementation of the Transfer Project air quality mitigation measures. The State recognizes that IID may choose to take a different approach than assumed by the Resources Agency for the purposes of the Draft PEIR.

IID-49

The Draft PEIR did take into account the mitigation measures required by the Transfer Project permit conditions. These were included in the No Action Alternative and all of the action alternatives and therefore pupfish connectivity was included in the No Action Alternative and all of the action alternatives. Since the refugium pond would not be affected by any of the alternatives and is likely to be located outside of the Draft PEIR's project area, it was not included in the analysis. See response to comment IID-46.

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	maintain the current amount of potential pupfish drain habitat over the term of the permit. In addition, USBR is obligated to provide funding for siting and construction of a pupfish refugium pond. Please clarify how these measures are proposed to be modified and the degree to which they satisfy restoration objectives.	IID-49 cont.
3-61, 5-26	We recognize that the function of the inflow assumptions for the No Action Alternative-Variability Conditions is to reflect a range of variability, in order to facilitate the modeling of possible future conditions. However, IID does not endorse the PEIR's description of specific future actions which presumably support future inflow reductions, or the degree of reduction attributed to these actions, or the likelihood thereof, including the descriptions at 3-61, 5-26, H2-41, H2-55 and H-56 of Appendix 42. For example, we do not agree with the statement on page 5-26 that implementation of the AAC Lining Project will result in reduced New River flows due to reductions in agricultural return flows and groundwater recharge in the Mexicali groundwater basin. The PEIR itself concludes that the potential for reduced inflow to the Salton Sea caused by reduced seepage flows in the Mexicali Valley is speculative (*see* pages 4-10 and H2-54]. The Groundwater Study performed by Tetra Tech for the AAC and Coachella Canal Lining Projects also concludes that lining the AAC would have no impact on the New River since it is too far east and any impacts would be intercepted by the Alamo River drainage basin. We question whether there is sufficient support for the projected inflow reduction due to TMDLs described on page H2-41 and H2-55. We also question deriving inflow reductions from USBR's 2003 effort to reduce IID's diversions, referred to on pages H2-56 and –57.	IID-50
3-79	The heading of this section ("Evaluation of Transfers Allowed under the Quantification Settlement Agreement") is misleading. The section does not evaluate transfers allowed under the QSA; rather, it describes only the mitigation water to be conveyed by IID to the Salton Sea and the potential water transfers from IID to DWR. As discussed above, the conservation and delivery of the 800,000 acre-feet block of mitigation water has been fully assessed and is required under existing permits and approvals for the Transfer Project. The IID/DWR transfers are authorized by the State legislation and the conditions applicable to these transfers are specified in the IID/DWR Transfer Agreement. However, the effects of these transfers are not assessed under the environmental documents applicable to the Transfer Project. DWR must complete all environmental documentation and obtain all permits necessary to complete these transfers.	IID-51 IID-52
3-80	Footnotes to Table 3-13 on page 3-80 incorrectly indicate the method of conservation for (c)(1) and (c)(2) water. The mitigation water delivered by IID to the Sea is generated by fallowing; however, if the balance of this block of water is conveyed to DWR as (c)(2) water, IID has the right to select the conservation method pursuant to the IID/DWR Transfer Agreement (so that it can be generated by efficiency methods). Similarly, IID has the right to select the conservation methods for all of the (c)(1) water conveyed to DWR.	IID-53

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IID (cont.)

IID-50

The All-American Canal Lining Project was considered in the variability analysis because of the potential that it might have in reducing agricultural return flows from Mexico. It is important to note that the Draft PEIR recognizes the potential impact on return flows is speculative and therefore should not be assumed as a major contributing cause to future declining inflows from Mexico.

The Draft PEIR assumed no inflow adjustments on TMDL compliance under the No Action Alternative-CEQA Conditions and the No Action Alternative-Variability Conditions but recognizes TMDL compliance as one contributing factor that could significantly increase implementation of more efficient on-farm tailwater recovery systems. No specific quantification of reduced inflows is made from TMDL compliance.

Under the No Action Alternative-Variability Conditions, possible future water use determinations by Reclamation or the SWRCB (such as a Part 417 proceeding) were identified as potential contributing factors that could reduce inflows from Imperial Valley. However, these potential factors were not specifically quantified in the analysis.

As described in Chapter 3 of this Final PEIR, additional analysis on inflows would be appropriate to conduct during project-level analysis. This project-level inflows analysis could consider the concerns identified by the commenter.

IID-51

The Draft PEIR has been modified as requested.

IID-52

See response to comment IID-37.

IID-53

The Draft PEIR has been modified as requested.

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3-89	The PEIR states that transfer of the (c)(1)and (c)(2) water "was not considered under the No Action Alternative". Please clarify that these transfers are not appropriately included in the No Action Alternative because: (1) they are only allowed, under the terms of both the State legislation and the IID/DWR Transfer Agreement, if determined to be consistent with the preferred alternative for Salton Sea restoration; and (2) they have not been assessed and permitted so as to permit implementation under the No Action Alternative.	IID-54
3-86 et seq.	Table 3-15 compares the impacts of each Alternative against both the Existing Conditions and the No Action Alternative. The determinations of level of impact are a very important part of the assessment required by CEQA. We request a number of clarifications regarding this analysis. How do the Existing Conditions (apparently defined by data from 1950 to the present, according to the PEIR at page 6-6) vary from the No Action Alternatives? Are the PEIR determinations regarding the level of impacts for the Alternatives based on a comparison of the Alternatives to the Existing Conditions or to the No Action Alternative? Which No Action Alternative is used for this Table (CEQA Conditions or Variability Conditions)? Please explain why this Table does not incorporate required mitigation measures and, instead, uses a concept of "Next Steps", including additional studies. Do the significance determinations assume implementation of all feasible mitigation measures? Do the comparisons to the No Action Alternative assume implementation of all mitigation measures required for the Transfer Project?	IID-55 IID-56 IID-57 IID-58 IID-59 IID-60
4-8	The PEIR states that the "Related Projects" summarized in Table 4-2 would affect the Salton Sea ecosystem or alternatives. However, the PEIR concludes at page 4-10 that the AAC Lining Project will not affect the Salton Sea; therefore, this project should be deleted from Table 4-2 as a Related Project.	IID-61
4-13,-14	Several corrections need to be made to the description of the Transfer Project. The term of the Transfer Project/QSA is "up to" 75 years. The original IID/SDCWA Agreement was modified by the provisions of the QSA and implementation of the Transfer Project in conformance with the QSA was approved by the IID Board in October, 2003. The Transfer Project is assessed in the Final EIR/EIS dated June, 2002, which is identified in the PEIR; however, the Final EIR/EIS was supplemented by an Addendum thereto dated September, 2003 [*see* Part 1, Section 9.1 of these Comments above]. The State Board Order approving the Transfer Project is identified as Revised Order WRO 2002-0013, issued on December 20, 2002. The mitigation water required to be provided to the Salton Sea for a 15-year period is part of the Salton Sea Habitat Conservation Strategy ("SSHCS") included in the HCP for the Transfer Project; it is not referred to as the "(c)(2)" water. Rather, the	IID-62 IID-63 IID-64

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IID (cont.)

IID-54

See response to comment IID-37.

IID-55

Existing Conditions utilized available historical data from 1950 to the present to evaluate current conditions and recent historical trends. The No Action Alternative-CEQA Conditions and the No Action Alternative-Variability Conditions were developed to look at future conditions without the implementation of the Salton Sea Ecosystem Restoration Program.

IID-56

The impact analysis compared the alternatives against both the Existing Conditions and the No Action Alternative-Variability Conditions.

IID-57

The No Action Alternative-Variability Conditions was used in Table 3-15 of the Draft PEIR.

IID-58

Next Steps were used to identify potential future actions that could reduce the significance of impacts. Next Steps were used because the Draft PEIR is programmatic in nature, implementing legislation would be needed, and there are substantial data gaps and uncertainties that could be addressed during project-level analysis.

IID-59

Due to the programmatic nature of the Draft PEIR, an exhaustive list of mitigation measures was not developed. As additional specificity and information is determined during project-level analysis, additional mitigation measures may be identified by the implementing agency and incorporated into future project-level analysis.

IID-60

Yes. The No Action Alternative assumes implementation of the Transfer Project mitigation measures.

IID (cont.)

IID-61

The Related Projects summarized in Table 4-2 consist of projects that were considered in the Existing Conditions, No Action Alternative-CEQA Conditions, No Action Alternative-Variability Conditions, and Cumulative Impacts sections of the Draft PEIR (see page 4-1). As stated on page 4-10 and H2-54 of the Draft PEIR, existing documentation has not identified changes in seepage from the All-American Canal that would substantially affect agricultural return flows from Mexico to the Salton Sea. However, the potential for that to occur was considered in the No Action Alternative-Variability Conditions. In addition, the potential short term construction impacts that would result from the All-American Canal Lining Project were considered in the cumulative impact analysis (see Draft PEIR page 23-3). Therefore, it is appropriate to include the All-American Canal Lining Project in Table 4-2 as the project was considered throughout the preparation of the Draft PEIR and was included in both the No Action Alternative-Variability Conditions and the cumulative impacts analysis.

IID-62

The Draft PEIR has been modified as requested.

IID-63

The Draft PEIR has been modified as requested.

IID-64

The Draft PEIR has been modified as requested.

	(c)(2) water is the balance of the mitigation water if and when approved for transfer to DWR. The transfer of this water is not a part of the Transfer Project [*see* Part 1, Section 11 of these Comments, above].	IID-64 cont.
	The 4-step Air Quality Mitigation Plan adopted for the Transfer Project is not limited or necessarily extended to the area located "below –235 feet msl". The Transfer Project is required to mitigate air quality impacts resulting from playa exposed as a result of that project.	IID-65
	The Biological Opinion issued in December, 2002 is discussed out of sequence. The Salton Sea Habitat Conservation Strategy for the Transfer Project was developed in several steps. The Final EIR/EIS for the Transfer Project (certified in June 2002) proposed the delivery of mitigation water to the Salton Sea until 2030 pursuant to the Draft HCP. In July 2002, USBR initiated an alternative compliance process to obtain take authorization for federally-listed species using the Section 7 consultation process pursuant to the federal Endangered Species Act. This process culminated in issuance of the Biological Opinion ("BO") by USFWS in December 2002. The BO proposed a "15-Year Minimization Plan", developed in consultation with State agencies and designed to ensure that the Transfer Project did not materially affect the salinity of the Sea during the first 15 years of the transfers. In addition to requiring the delivery of mitigation water to the Sea during these 15 years, this Plan required a reduction in the volume of water transferred to SDCWA during these 15 years. The State Board Order approving the Transfer Project, issued in December 2002, also required the delivery of mitigation water for the first 15 years. After consultation with CDFG and other State agencies, IID subsequently modified the SSHCS to include the elements of the 15-Year Minimization Plan and to ensure consistency with the BO and the State Board Order. The revised SSHCS was assessed in the 9/03 Addendum to the Final EIR/EIS for the Transfer Project. It was included in the mitigation measures adopted by IID as part of its approval of the Transfer Project in October 2003. The delivery of mitigation water and the reduction in transfer volume included in the 15-Year Minimization Plan are an integral part of the QSA as approved in October 2003.	IID-66
	IID is currently processing a combined HCP/NCCP pursuant to ESA Section 10 and the State NCCP Act, substantially incorporating the provisions of the Draft HCP attached to the Final EIR/EIS for the Transfer Project, as modified by the 9/03 Addendum. Approval of the HCP/NCCP is expected during 2007.	IID-67
4-14	The PEIR indicates that the Transfer Project is "considered" under the Existing Conditions and the No Action Alternatives. Please clarify to what extent it is considered under the Existing Conditions and how that affects the assessment of the impacts of the SSRP Alternatives under Table 3-15.	IID-68
	Please confirm whether any changes to the Transfer Project are anticipated in order to implement the Alternatives and, if so, where such changes are assessed in the PEIR.	IID-69

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IID (cont.)

IID-65

The Draft PEIR has been modified as requested.

IID-66

The Draft PEIR has been modified as requested.

IID-67

See response to comment IID-30. The HCP/NCCP could be considered during project-level analysis, if approved at that time.

IID-68

As described in Chapters 3 and 4 of the Draft PEIR, the No Action Alternative includes implementation of the Transfer Project and its related mitigation measures. Therefore, the impact assessment in the Draft PEIR assumes implementation of the Transfer Project mitigation measures.

IID-69

The Draft PEIR assumes implementation of the Transfer Project and QSA, including the associated mitigation measures and permitting requirements. Certain assumptions have been made with respect to how some of the obligations under the Transfer Project and QSA would be implemented. These assumptions were made for the purposes of analysis in the Draft PEIR and do not change IID's responsibilities under the Transfer Project and QSA.

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	Although the PEIR includes an assessment of the impacts of the transfer of (c)(1) and (c)(2) water on Salton Sea salinity and elevation, it is not correct to say that "provisions for (c)(2) water" have been included in Existing Conditions and the No Action Alternatives. As discussed above, the IID/DWR water transfers have not been assessed or included in permits for projects properly included in Existing Conditions or the No Action Alternatives.	IID-70
4-16	Please clarify that the QSA quantifies the amount of Colorado River water available to CVWD, IID and MWD only for the term of the QSA (up to 75 years). The description of the environmental documentation for the QSA should refer to a "Final PEIR" certified in June, 2002, as amended and supplemented by the Addendum to the Final PEIR dated September, 2003. The 9/03 Addendum addressed changes made to the QSA terms between certification of the Final PEIR and approval of the QSA project in October 2003.	IID-71 IID-72
4-18	The PEIR indicates that implementation of TMDLs will improve water quality in the drains leading to the Salton Sea (thus improving water quality in the Salton Sea, which facilitates restoration.) The PEIR also indicates that the No Action Alternative-Variability Conditions includes inflows which are assumed to be reduced due to methods used to comply with TMDLs. IID maintains that it is not equitable to assume that IID will absorb the cost of water quality improvements resulting from TMDL implementation and be responsible for exposed playa caused by inflow reductions relating to TMDL implementation, especially in light of the limitations on IID's liability for restoration costs established by the State legislation and the QSA JPA Agreement. Please explain why the PEIR assumes that these costs will be borne by IID.	IID-73
5-2	The description of MWD's request to divert flows on the New and Alamo Rivers should be corrected to indicate that MWD has applied to divert "agricultural drain flows" that reach the New and Alamo Rivers. Such flows are not "return flows" because they do not return to the source from which they were diverted, the Colorado River. Such flows are also not "uncontrolled" tailwater, since tailwater flows result only after the managed and monitored flow of irrigation water ordered by the farmer across a field and subject to the regulations and monitoring of tailwater by the IID. Tailwater is recoverable and reusable by the farmer, and tailwater and drain flows may be conserved, recaptured and reused by IID despite MWD's application or obtainment of an appropriative right.	IID-74
5-13	It is incorrect to assert that tailwater is not available for on-farm use except in fields with tailwater recovery systems. There are additional means of capturing and re-using tailwater, such as sequential or cascade irrigation systems.	IID-75
5-22	The AAC Lining Project should not be listed as an action which could affect inflows to the Salton Sea –*see* the comment applicable to Table 4-2 above and the discussion in the PEIR at page 4-10.	IID-76

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IID (cont.)

IID-70

For the purposes of the Draft PEIR, "(c)(2) water" is generally used to refer the delivery of water to the Salton Sea under the Salton Sea Habitat Conservation Strategy.

IID-71

The Resources Agency acknowledges that the QSA quantifies the amount of Colorado River water available to CVWD, IID and Metropolitan only for the term of the QSA (up to 75 years). The Draft PEIR has been modified as requested.

IID-72

The Draft PEIR has been modified as requested.

IID-73

See response to comment IID-35. The Draft PEIR makes no assumptions concerning who will bear these costs.

IID-74

The Draft PEIR has been modified as requested.

IID-75

The Draft PEIR has been modified as requested.

IID-76

See response to comment IID-50.

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5-23	Table 5-4 is confusing in identifying "Next Steps" for the No Action Alternative. These are described as if they were mitigation measures to be considered as part of the SSRP; however, the No Action Alternative assumes no action by the State pursuant to the PEIR. It is appropriate to identify that BMPs are included as mitigation measures under the permits and approvals for the Transfer Project, which would be implemented by IID. Mitigation for the Transfer Project does not cover all activities included in the No Action Alternative, however. This comment also applies to other Tables in the PEIR outlining Next Steps applicable to the No Action Alternative for various resource areas.	IID-77
5-26	In the second sentence of the fourth paragraph under "Inflows and Climate Assumptions for No Action Alternative-Variability Conditions", change "inflows from the Imperial Valley" to "inflows from the Coachella Valley".	IID-78
6-5	Please explain whether implementation of the Alternatives will result in any change in the designated beneficial uses for surface water in the Salton Sea (described in Table 6-2), or any portion of the Sea. If the SSRP reconfigures the Sea in ways that limit or prevent some of these uses, will the Water Quality Control Plan be changed? If the areas for beneficial uses are expanded as a result of the SSRP, will that affect the water quality requirements, including implementation of TMDLs, in drains and rivers leading to the Sea? If so, why are the costs of implementation of such measures not included in restoration costs?	IID-79
6-29	Table 6-5 includes "Next Steps" for the No Action Alternative. Who is expected to implement these requirements under the No Action Alternative? This reference is especially confusing since the Table indicates either no changes associated with the No Action Alternative or that these changes were not analyzed. Why are no specific mitigation measures proposed in connection with the PEIR Alternatives? The same comment applies to the Next Steps assigned to the No Action Alternative on page 6-30.	IID-80
6-36,-37	No specific mitigation measures relating to surface water quality are specified in the PEIR, although a number of actions are described as potential. A programmatic assessment is supposed to include mitigation measures where identifiable and feasible. Since Table 6-5 appears to show that Existing Conditions involve substantially degraded water quality, the findings of "L" (Less than Significant) attached to various PEIR Alternatives apparently means that the significant degradation continues but the impacts of the SSRP do not exacerbate these conditions. Is that correct? Why aren't mitigation measures required to reduce the existing level of significance, given the restoration objectives of the SSRP? We note that the State legislation requires that the preferred alternative for the SSRP include the maximum feasible attainment of three key objectives, one of which is the "protection of water quality" [SB 277 (2003), adopting the Salton Sea Restoration Act, Fish and Game Code § 2931(c)(3)] .	IID-81

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IID (cont.)

IID-77

Next Steps were used to identify potential future actions that could reduce the significance of impacts. The Next Steps identified for the No Action Alternative do no imply that the State would implement these actions.

IID-78

The Draft PEIR has been modified as requested.

IID-79

Due to the programmatic nature of the Draft PEIR, there was not sufficient level of detail to determine whether or not the alternatives met the Beneficial Use criteria established by the CRBRWQCB. This determination would be more appropriate during project-level analysis. It is expected that the Beneficial Use criteria could be a consideration during this future project-level analysis, and that appropriate modifications or mitigations could be incorporated to better achieve the designated Beneficial Uses.

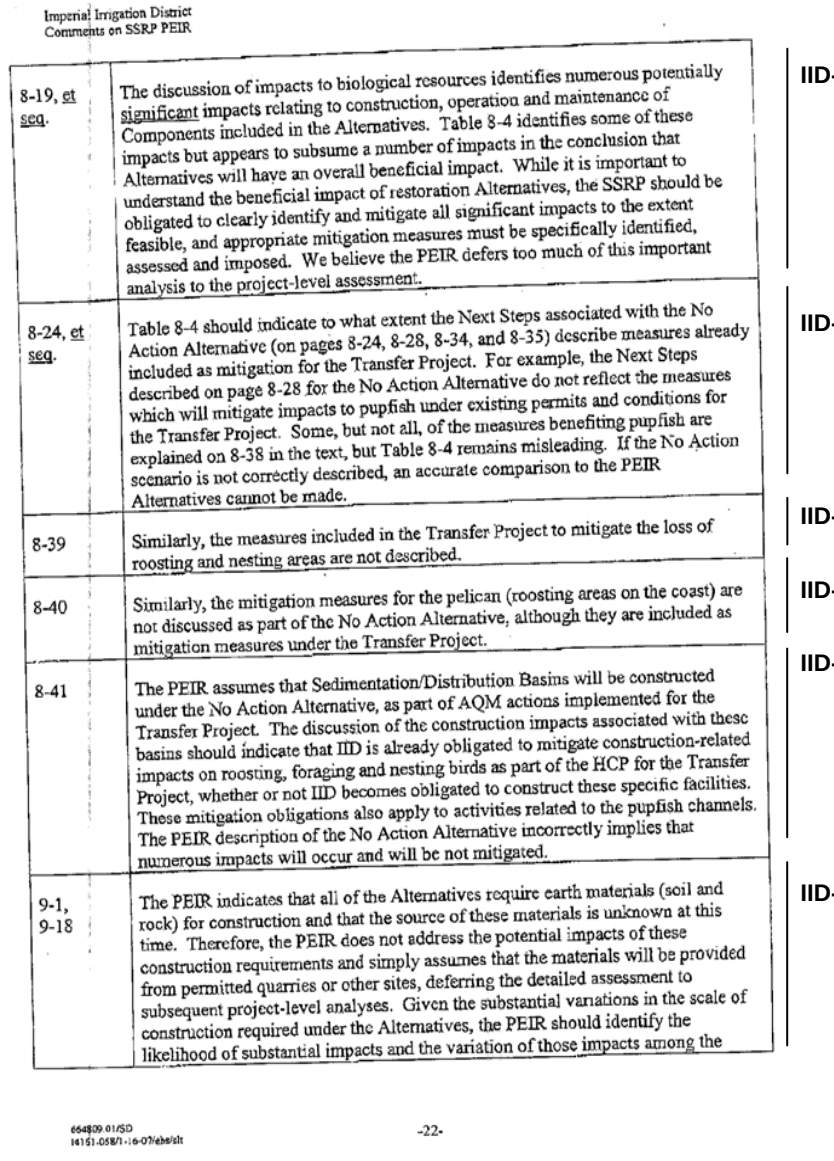
Any changes to Beneficial Uses and resulting changes to water quality requirements, including implementation of TMDLs, are speculative at this time.

IID-80

Next Steps were used to identify potential future actions that could reduce the significance of impacts. The Next Steps identified for the No Action Alternative do no imply that the State would implement these actions.

IID-81

See response to comment IID-58.



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8-19, et seq.	The discussion of impacts to biological resources identifies numerous potentially significant impacts relating to construction, operation and maintenance of Components included in the Alternatives. Table 8-4 identifies some of these impacts but appears to subsume a number of impacts in the conclusion that Alternatives will have an overall beneficial impact. While it is important to understand the beneficial impact of restoration Alternatives, the SSRP should be obligated to clearly identify and mitigate all significant impacts to the extent feasible, and appropriate mitigation measures must be specifically identified, assessed and imposed. We believe the PEIR defers too much of this important analysis to the project-level assessment.	IID-82
8-24, et seq.	Table 8-4 should indicate to what extent the Next Steps associated with the No Action Alternative (on pages 8-24, 8-28, 8-34, and 8-35) describe measures already included as mitigation for the Transfer Project. For example, the Next Steps described on page 8-28 for the No Action Alternative do not reflect the measures which will mitigate impacts to pupfish under existing permits and conditions for the Transfer Project. Some, but not all, of the measures benefiting pupfish are explained on 8-38 in the text, but Table 8-4 remains misleading. If the No Action scenario is not correctly described, an accurate comparison to the PEIR Alternatives cannot be made.	IID-83
8-39	Similarly, the measures included in the Transfer Project to mitigate the loss of roosting and nesting areas are not described.	IID-84
8-40	Similarly, the mitigation measures for the pelican (roosting areas on the coast) are not discussed as part of the No Action Alternative, although they are included as mitigation measures under the Transfer Project.	IID-85
8-41	The PEIR assumes that Sedimentation/Distribution Basins will be constructed under the No Action Alternative, as part of AQM actions implemented for the Transfer Project. The discussion of the construction impacts associated with these basins should indicate that IID is already obligated to mitigate construction-related impacts on roosting, foraging and nesting birds as part of the HCP for the Transfer Project, whether or not IID becomes obligated to construct these specific facilities. These mitigation obligations also apply to activities related to the pupfish channels. The PEIR description of the No Action Alternative incorrectly implies that numerous impacts will occur and will be not mitigated.	IID-86
9-1, 9-18	The PEIR indicates that all of the Alternatives require earth materials (soil and rock) for construction and that the source of these materials is unknown at this time. Therefore, the PEIR does not address the potential impacts of these construction requirements and simply assumes that the materials will be provided from permitted quarries or other sites, deferring the detailed assessment to subsequent project-level analyses. Given the substantial variations in the scale of construction required under the Alternatives, the PEIR should identify the likelihood of substantial impacts and the variation of those impacts among the	IID-87

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IID (cont.)

IID-82

Chapter 8 of the Draft PEIR identifies and acknowledges the significant construction-related impacts that could occur under all of the alternatives. The "level of significance" of these impacts were not reduced in light of benefits anticipated by implementing a restoration program.

Additionally, due to the programmatic nature of the Draft PEIR, an exhaustive list of mitigation measures was not developed. Assuming there is legislative direction to pursue implementation, project-level analysis would be needed and the implementing agency could identify and incorporate specific mitigation measures into any future restoration program.

IID-83

As described in Chapters 3 and 4 of the Draft PEIR, the No Action Alternative includes implementation of the Transfer Project and its related mitigation measures. Therefore, Table 8-4 assumes implementation of the mitigation measures included as part of the Transfer Project. For all environmental resource areas, the Draft PEIR determinations of significant impacts are made after the application of the Transfer Project's mitigation measures, except for implementation of air quality management actions. However, as described in response to comment IID-49, some the Transfer Project's mitigation measures, such as the pupfish refugium pond and the offsite mitigation for brown pelicans, would not be affected by any of the alternatives and are outside of the Draft PEIR's project area. Thus, these mitigation measures were not included in the analysis. See response to comment IID-31.

IID-84

See response to comment IID-83. The Draft PEIR addresses impacts to special status species, including brown pelican. While impacts of the restoration project would result in significant impacts to special-status species, it is recognized that some of the Transfer Project mitigation measures could reduce these impacts.

IID-85

See response to comment IID-83.

IID-86

See response to comment IID-31. The Draft PEIR assumes implementation of the Transfer Project and QSA, including the associated mitigation measures and permitting requirements. As noted by the commenter, certain assumptions have been made with respect to how some of the obligations under the Transfer Project and QSA would be implemented. These assumptions were made for the purposes of analysis in the Draft PEIR and do not obligate IID to construct these specific facilities.

IID (cont.)

IID-87

For the programmatic level of analysis, the availability of quarry materials for construction was evaluated by looking at potential sites including permitted quarries and potential quarry sites that may not be permitted. The available information was insufficient to determine site-specific impacts at all potential sites and a site-specific analysis was beyond the scope of the programmatic level analysis. The analysis requested by the commenter would be more appropriately conducted during project-level analysis.

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	Alternatives, in order to facilitate a broad comparison and assist in the selecting of the Preferred Alternative.	IID-87 cont.
	Please describe whether consultation with the Division of Safety of Dams (DSOD) has been conducted to a level where the PEIR can address the time period for DSOD approval of structures within their jurisdiction and the cost and feasibility of requirements which would be conditions to DSOD approval.	IID-88
9-25	Do the designations of "Significant Impact" in Table 9-7 assume that mitigation measures have been incorporated into the Alternatives, including construction in accordance with the California Building Code and applicable design standards?	IID-89
	Table 9-7 is misleading in its failure to differentiate the risks associated with the No Action Alternative as compared to the Project Alternatives. For example, a number of the Project Alternatives include substantial facilities within the Sea bed which could be affected by seismic events, whereas the facilities to be constructed with the No Action Alternative involve only AQM facilities and pupfish channels. There is a quantitative difference which is obscured, and the Table tends to understate Project impacts.	IID-90
10-45	What is the basis for concluding that shoreline emissions will be over thresholds under the No Action Alternative in Phases III and IV? Does the PEIR assume that the impacts of the Transfer Project will not be mitigated in accordance with the 4-step Air Quality Mitigation Plan adopted for the Transfer Project? Or, is it anticipated that the exceedance will result from conditions other than the Transfer Project under the No Action Alternative? If the latter, how can the "Next Steps" (e.g., mitigation planning) be applied to No Action events or conditions which are not "projects" (such as climate changes, reduction of inflows from Mexico, etc.)? Are you assuming that the landowners will conduct project-level analyses, etc.?	IID-91 IID-92 IID-93 IID-94 IID-95
	The same questions apply to the criteria relating to HAPs on page 10-46 and the two criteria on page 10-49.	IID-96
	As noted above, it is confusing to us to have mitigation measures or Next Steps applied to the No Action Alternative without indicating who would implement these actions and the extent to which they are already provided for under the Transfer Project.	IID-97
10-51	The EIR/EIS for the Transfer Project concluded that air quality impacts would be potentially significant and unavoidable because of uncertainties regarding the extent of the impact and the feasibility and effectiveness of mitigation measures. A key component of the 4-step Air Quality Mitigation Plan is an effort to eliminate some of these uncertainties as the Sea recedes (Step 2, described in the PEIR at 10-50). The PEIR apparently acknowledges the same, if not more, uncertainty but does not require any near-term effort to reduce those uncertainties in order to better evaluate the effects of the Alternatives, even though the Alternatives are predicted to have very serious consequences in excess of the No Action Alternative. *See* the	IID-98

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IID (cont.)

IID-88

Informal consultation has been initiated with DSOD with respect to design criteria and guidelines. If the proposed barriers are jurisdictional, an application, together with plans and specifications, must be filed with DSOD for construction of the new dam. All dam safety issues would need to be resolved prior to the approval of the application. In general, DSOD does not consider project cost when reviewing the application.

IID-89

Significant impacts from seismic risk are included in Table 9-7 of the Draft PEIR because of the existence of major faults in the study area and recorded earthquake activity. Even though the California Building Code and applicable design standards would be applied to mitigate seismic risk, characterizing the seismic risk as a potential impact is an important factor when comparing alternatives.

IID-90

Under any of the proposed facilities, there is the potential for loss of life and property due to failures of structures under an extreme earthquake event. The Draft PEIR does not distinguish between small or large structures when considering risk. Failure of any structure could pose a risk to people and property downstream. The risk of failure from different facilities could be addressed in more detail during project-level analysis.

IID-91

See Table 10-14 of the Draft PEIR (beginning on page 10-36) for assumptions relative to the four step air quality plan, control efficiencies, and air quality management to be implemented by landowners. Emissions from the playa are assumed to exceed thresholds during Phases III and IV of the No Action Alternative due to the extent of the exposed area, an assumed lag time in landowner implementation of control, and assumed control efficiencies of implemented dust control (in each case, less than 100 percent control was assumed). No specific causes for emissions beyond those described, such as the de-watering of the exposed area and natural processes such as wind, are assumed.

IID-92

See response to comment IID-91.

IID-93

See response to comment IID-91.

IID (cont.)

IID-94

Developing a methodology for estimating emissions and attributing them to their interdependent and independent causes under a future No Action Alternative is outside the scope of the Draft PEIR. Mitigation planning under the No Action Alternative would involve actions, consistent with the four step air quality plan, to control emissions.

IID-95

Local air quality management district regulations indicate that, in the absence of other responsible parties, landowners will be responsible for mitigation of emissions of PM10 from their land. This could include implementation of Best Available Control Measures, as defined by the applicable air districts' regulations and policies. Identification of the analysis or other specific actions that might be required of landowners to comply with these regulations is beyond the scope of this Draft PEIR.

IID-96

Hazardous air pollutants (HAPs) are associated with dust emissions from Exposed Playa; therefore, the situation is similar to that described for PM10. See responses to comments IID-91 to IID-95.

IID-97

See responses to comments IID-91 through IID-96 for clarification.

IID-98

Extensive monitoring and research and development are discussed in detail and included in Appendix H-3 of the Draft PEIR. Additionally, as described in Chapter 3 of this Final PEIR, a variety of actions have been identified that could be implemented within the five-year timeframe following legislative direction to implement a restoration program. These actions include measures specifically targeted to address air quality uncertainties.

	comments in Part 1, Section 7 above relating to air quality.	IID-98 cont.
11-36	We question the PEIR conclusions that the No Action Alternative (a) has a "significant impact" on land use because the salinity in the Salton Sea will increase above 40 mg/L, and (b) "would not provide compliance with the Imperial County General Plan". In this case the County General Plan states an objective but no specific plans for achieving it. Does a project have to advance an objective of a General Plan in order to avoid a finding of significant conflict with it?	IID-99
	Based upon the Final EIR/EIS, the Transfer Project was not found to be inconsistent with the County General Plan. In fact, the Transfer Project was designed to encourage agriculture and to protect water rights essential to continued agriculture. Please clarify whether the PEIR is establishing a significant impact not identified in the final EIR/EIS for the Transfer Project.	IID-100
	The other activities included in the No Action Alternative (such as climate and activities in Mexico) are not activities subject to County jurisdiction or control; therefore, there does not seem to be a reasonable basis for the PEIR determination of significant General Plan conflict as applied to those activities.	IID-101
13-11	The PEIR concludes that the No Action Alternative will have a "Significant Impact" to recreational opportunities as a result of increased salinity. The No Action Alternative includes the effects of the Transfer Project as well as other conditions unrelated to that project. The Final EIR/EIS for the Transfer Project did not identify significant impacts to recreation with implementation of the Salton Sea Habitat Conservation Strategy and relocation of boat launching facilities. Please clarify whether you are not assigning a finding of significant impact to the Transfer Project inconsistent with the prior environmental documentation.	IID-102
15-10	The "Next Steps" associated with impacts to archeological resources under the No Action Alternative describe implementation of Transfer Project mitigation measures from –235 to –240 feet msl. As discussed above, the specific land area bounded by these elevation figures might be a useful short-hand reference; however, the mitigation measures applicable to the Transfer Project apply to exposure actually caused by that project.	IID-103
16-12	The same comment applies to the description of "Next Steps" in Table 16-3 relating to ground disturbing activities associated with the No Action Alternative.	IID-104
25-1, et seq.	As discussed in Section 1 above, IID will have discretionary approval over portions of the SSRP which require acquisition of IID land, facilities or water services, any modifications to existing IID contract obligations or permit requirements which are required to implement the restoration project, and any Component of the restoration projects which anticipates transfer of the (c)(1) or (c)(2) water. As a Responsible Agency, IID will rely upon the PEIR and subsequent project-level EIRs to fulfill its responsibilities under CEQA.	IID-105

IID (cont.)

IID-99

The Draft PEIR uses Appendix G of the CEQA Guidelines as a basis for significance criteria (see page 11-26 of the Draft PEIR). As described in the Appendix G of the CEQA Guidelines, a project would have an impact if it would "conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect." For the purposes of the Draft PEIR, any conflicts with the local General Plans were determined to result in significant impacts.

IID-100

The Draft PEIR does not establish the significance of impacts for the Transfer Project. Rather, the Draft PEIR seeks to determine the impacts that would occur with and without the Salton Sea Ecosystem Restoration Program. As described in Chapter 11 of the Draft PEIR, the applicable General Plans were reviewed to determine potential inconsistencies between these plans and the Salton Sea Ecosystem Restoration Program alternatives.

IID-101

The State recognizes that some of the activities included in the No Action Alternative-Variability Conditions are not activities subject to County jurisdiction or control. The Draft PEIR merely finds that the No Action Alternative is not consistent with the General Plan, regardless of jurisdiction or control over these matters.

IID-102

The Draft PEIR included additional significance criteria beyond those in Appendix G of the CEQA Guidelines and beyond those in the Transfer Project Final EIR/EIS in the recreation section. These additional criteria were developed based on input from Salton Sea Advisory Committee members and through scoping (see responses to the Notice of Preparation). These criteria addressed "substantial" changes to recreational opportunities (see page 13-8 of the Draft PEIR). While the Draft PEIR recognizes and includes the Transfer Project mitigation measures in the No Action Alternative, based on the additional significance criteria, a significant impact was found for the No Action Alternative.

IID-103

The Draft PEIR has been modified.

IID (cont.)

IID-104

See response to comment IID-103. The Draft PEIR has been modified.

IID-105

The Resources Agency recognizes IID's role as a Responsible Agency in the development and implementation of any future restoration project (see Chapter 25 of the Draft PEIR). During development of any project-level CEQA analysis, there would be further consultation with Responsible Agencies, including IID.

JAN 17 2007

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

January 11, 2007

Via E-Mail

Ms. 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

Draft Programmatic Environmental Impact Report for the
Salton Sea Ecosystem Restoration Program (SCH # 2004021120)

The Metropolitan Water District of Southern California (Metropolitan) has reviewed a copy of the Draft Programmatic Environmental Impact Report (Draft PEIR) for the Salton Sea Ecosystem Restoration Program. The California Resources Agency is acting as the lead agency under the California Environmental Quality Act and the Department of Fish and Game and Department of Water Resources have prepared the Draft PEIR for the Resources Agency. The objectives of the program are as follows: (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 projects; and (3) Protection of water quality.

Metropolitan offers the following comments in response to the Draft PEIR:

1. **Discussion of Water Rights**
The discussion of "water rights" on pages 5-1 through 5-2 of the Draft PEIR is limited to the identification of water rights records for several streams tributary to the Salton Sea including Metropolitan's applications filed with the State Water Resources Control Board to appropriate water from the Alamo River and the New River. However, there is no discussion of the matter of in-stream flow entitlements of these tributaries for the Salton Sea itself. As stated on page 12 of House of Representatives Report No. 105-621, dated July 14, 1998, the Committee on Resources found that,

"Drainage and seepage waters that sustain the Sea are simply the incidental result of beneficial uses of water which are governed by existing laws, including the Law of the River."

Metropolitan participated in the development of the Draft PEIR inflow assumptions and is comfortable that the projected inflows reflect this finding of the House Committee on

MWDSC-1

MWDSC-2

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Metropolitan Water District of Southern California (MWDSC)

MWDSC-1

The section on water rights in Chapter 5 was intended to provide a summary of existing water rights that currently affect inflows to the Salton Sea and the legal framework that regulates its use for the collection of agricultural drainage water, seepage, and other flows. It would not be appropriate for the Draft PEIR to interpret the legal status of inflows to the Salton Sea. Accordingly, the findings in the House of Representatives Report No. 105-621, dated July 14, 1998, were not included in the water rights discussion.

MWDSC-2

See response to comment MWDSC-1. Chapter 5 of the Draft PEIR contains a general overview of the regulatory framework and water rights related to the Salton Sea Ecosystem Restoration Program. This is intended as background information to frame the environmental analysis, rather than an exhaustive discussion of the Law of the River.

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THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Ms. Dale Hoffman-Floerke
Page 2
January 11, 2007

Resources. However, Metropolitan believes it would be appropriate for the water rights discussion in Chapter 5 of the Draft PEIR to incorporate the above language cited from House of Representatives Report No. 105-621. For a more detailed discussion of Colorado River water rights, the Final PEIR could include a reference to Section 1.3.3 of the June 2002 *Final Environmental Impact Report: Implementation of the Colorado River Quantification Settlement Agreement* (State Clearinghouse No. 2000061034).

MWDSC-2 cont.

2. **Proposed Imperial Irrigation District Reservoir incorporated into Alternative 7**
The Draft PEIR does not address the potential impact to water supplies that could result from operation of the Imperial Irrigation District (IID) Reservoir incorporated into Alternative 7. As described in the Draft PEIR, the proposed 250,000 acre-foot reservoir would cover 11,000 acres and would be owned and operated by IID for storage of Colorado River flows.

MWDSC-3

The Final PEIR should be expanded to describe the purpose and need of the proposed reservoir and to evaluate the impacts on water supply.

We appreciate the opportunity to provide input to your planning process. If we can be of further assistance, please contact John L. Scott at (213) 217-7823.

Very truly yours,

Delaine W. Shane
Interim Manager, Environmental Planning Team

JS/LIM/lim
(Public Folders/EPU/Letters/09-JAN-07A.doc – Dale Hoffman-Floerke)

MWDSC (cont.)

MWDSC-3

The SSA included the IID Reservoir as part of Alternative 7. This new facility is assumed to be part of IID's existing water delivery conveyance system and would be planned and constructed under a separate permitting process for use of Colorado River water.

JAN 22 2007

South Coast
Air Quality Management District
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FAXED JANUARY 16, 2007

January 16, 2007

Mr. Dale Hoffman-Floerke
Colorado River and Salton Sea Office
1416 Ninth Street, Room 1148-6
Sacramento, CA. 95814

Draft Programmatic Environmental Impact Report (DPEIR) for the Salton Sea Ecosystem Restoration Program (October 2006)

Dear Mr. Hoffman-Floerke:

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. SCAQMD staff understands the stakes involved regarding the lead agency's efforts to restore the Salton Sea ecosystem. Any efforts at restoration efforts, however, must proceed without further exacerbating the already poor air quality in the region. The SCAQMD, therefore, requests that preference be given to those alternatives with the lowest air quality impacts, both during construction and, especially, over the long term. Further, the SCAQMD requests that the lead agency specifically identify measures in the Final PEIR to mitigate significant adverse construction and operational air quality impacts to the maximum extent feasible, consistent with both the California Environmental Quality Act and the Salton Sea Restoration Act. **SCAQMD-1**

Pursuant to Public Resources Code Section 21092.5, please provide the SCAQMD with written responses to all comments contained herein prior to the adoption of the Final Programmatic Environmental Impact Report. The SCAQMD staff would be happy to work with the Lead Agency to address these issues and any other questions that may arise. Please contact Dr. Steve Smith, Program Supervisor – CEQA Section, at (909) 396-3054, if you have any questions regarding these comments.

Sincerely,

Steve Smith

Steve Smith, Ph.D.
Program Supervisor – CEQA Section

Attachment

SS:CB

SBC061024-01
Control Number

(c:/documents/letters/saltsealtr2.doc)

South Coast Air Quality Management District (SCAQMD)

SCAQMD-1

The Preferred Alternative and the process for selecting it are described in Chapter 3 of this Final PEIR. 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: (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 projects. (3) Protection of water quality." While the Resources Agency recognizes the importance of elimination, to the extent feasible, air quality impacts from the restoration project, the Salton Sea Restoration Act does not appear to allow for prioritization of one objective over another in the selection of a preferred alternative. During the preparation of any future project-level analysis, a detailed air quality impact analysis would be appropriate to address specific impacts and mitigation measures that could eliminate the air quality impacts to the maximum extent feasible.

Mr. Dale Hoffman Floerke -1- 1/16/2007

JAN 22 2007

Draft Programmatic Environmental Impact Report (DPEIR) for the Salton Sea Ecosystem Restoration Program

1. SCAQMD staff has reviewed the DPEIR and understands that a preferred alternative has not been identified in the document. Further, a preferred alternative will be identified in the Final PEIR based on comments submitted by the public with assistance from the Salton Sea Advisory Committee, which includes the SCAQMD's Executive Officer as a member. It is also understood that the preferred alternative must balance the needs and interests of a number of different stakeholders and take into consideration effects of the proposed project on a wide range of environmental topic areas. Given the general nature of the analysis of air quality impacts identified for each alternative evaluated in the DPEIR, the SCAQMD is not endorsing any specific project alternative at this time. However, the lead agency should be reminded that the Salton Sea Restoration Act specifically identifies as one of the three main objectives, "Elimination of air quality impacts from restoration projects…" Therefore, strong preference should be given to alternatives with the lowest air quality impacts during both construction and, most importantly, during operation of the preferred alternative over the long term. Further, any alternative selected should focus on mitigating significant adverse air quality impacts to the maximum extent feasible, as required by CEQA.

2. On page 10-35 of the DPEIR the lead agency lists number of emissions sources that "were not included as part of this programmatic analysis, but would be considered for the project-level analyses…" Although these sources are expected to be included in the project level analyses for the preferred alternative, SCAQMD staff requests that the lead agency acknowledge that air quality impacts evaluated for each of the project alternatives are underrepresented and are likely to be substantially greater.

3. On page 10-26 the lead agency states, "A screening level analysis of construction emissions was used to estimate the impacts of the alternatives. This means… that emission calculations were focused on two pollutants, NOx and PM10." The SCAQMD understands that a screening analysis at the programmatic level may be appropriate, but this does not excuse the lead agency from calculating impacts for the other criteria pollutants or deferring this analysis to the subsequent project-specific analyses. SCAQMD staff, therefore, recommends that carbon monoxide (CO), sulfur oxides (SOx), and volatile organic compound (VOC) emissions be calculated in the Final PEIR for the preferred project alternative.

4. As of January 1, 2007, the SCAQMD has advised lead agencies to calculate PM2.5 emissions for projects. Because the DPEIR was prepared and released for public review prior to 2007, the SCAQMD would not normally request an evaluation of PM2.5 impacts. However, because of the magnitude of potential particulate emission impacts from all of the project alternatives, both PM10 and, possibly PM2.5; the long-term timeframe of the impacts; and the fact that PM2.5 impacts are reasonably foreseeable, the SCAQMD believes the lead agency is obligated to evaluate PM2.5 impacts as part of the CEQA analysis. Therefore, the SCAQMD requests that, in addition to including an analysis of CO, SOx, and VOC emissions in the Final PEIR for the preferred alternative (see comment #3), the lead agency also calculate PM2.5 emissions for the preferred alternative. Further, all future project-specific CEQA documents for the preferred alternative should include an analysis of PM2.5

SCAQMD (cont.)

SCAQMD-2

See response to comment SCAQMD-1.

SCAQMD-3

The following sentence was added to page 10-35 of the Draft PEIR "Inclusion of these emission sources in the impact analysis would result in higher emissions for each alternative."

SCAQMD-4

Although an evaluation of other criteria air pollutants (such as CO, SOx, VOC, and PM2.5) emitted during the construction would typically be included in an environmental document, the approach used in the Draft PEIR was to evaluate the nonattainment pollutants as indicators of air quality impacts that might be associated with the alternatives. In most cases, the estimated emissions rates for the nonattainment pollutants exceeded thresholds of significance for all of the alternatives. It was determined that a more detailed analysis of construction emissions for other criteria pollutants would not contribute substantively to the air quality evaluation of alternatives at the programmatic level and that it would not help differentiate among alternatives in the selection of a preferred alternative. A more detailed analysis of construction emissions could be conducted during project-level analysis.

SCAQMD-5

See response to comment SCAQMD-4.

JAN 2 3 2007

emissions. Information on the appropriate PM2.5 significance thresholds to be used in the SCAQMD's jurisdiction and a calculation methodology for calculating PM2.5 can be found online at the following URL: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html.

SCAQMD-5 cont.

5. In Appendix E, Attachment E5, the lead agency acknowledges that dust generating activities within the SCAQMD's jurisdiction for any preferred alternative would be subject to SCAQMD dust control Rule 403 – Fugitive Dust. The lead agency, however, should be aware that the preferred alternative would also be subject to SCAQMD Rule 403.1 – Supplemental Fugitive Dust Control Requirements for Coachella Valley Sources, Riverside County Ordinance 742.1 in county unincorporated areas and other local city dust control ordinances for any portions of the preferred alternative that occur within the sphere of influence of local Coachella Valley cities.

SCAQMD-6

6. According to Table 10-15 and Figures 10-5 through 10-7, construction PM10 impacts during phase 1, operational PM10 impacts during phase IV, peak NOx construction emissions, and operational NOx emissions during phase IV are expected to exceed applicable significance thresholds. However, no mitigation measures are specifically identified in the DPEIR. Instead, Table 10-14 identifies assumptions common to all alternatives, which include the following "control measures":

SCAQMD-7

(2) The following control measures for fugitive dust emissions during construction were assumed:

- To control fugitive dust emissions from dry land disturbed to construct Saline Habitat Complex cells and roads, a 2-hour surface watering interval would be implemented, with an estimated control efficiency of 55 percent (WRAP, 2004);
- To control fugitive dust emissions associated with truck and vehicle travel on unpaved roads, watering twice a day would be implemented, with an estimated control efficiency of 55 percent (WRAP, 2004);

(3) To estimate exhaust emissions generated during construction of each alternative, the following assumptions were made:

- Land-based construction equipment would be required to meet Tier 4 emissions standards; Diesel engines used on marine vessels would be required to meet Tier 2 emission standards;
- Diesel engines used on marine vessels would be required to meet Tier 2 emission standards;

The SCAQMD request that these "control measures" be made mandatory as mitigation measures in the Final PEIR. In addition, the SCAQMD requests that the lead agency include these mitigation measures in a mitigation monitoring plan pursuant to Public Resources Code (PRC) §21081.6 and California Code of Regulations (CCR) §15097 and the Statement of Findings for the preferred Alternative prepared pursuant to PRC §21081 and CCR §15091.

SCAQMD (cont.)

SCAQMD-6

Additional analysis of fugitive dust rules/ordinances, such as SCAQMD Rule 403.1 and Riverside County Ordinance 742, for construction and operation of a restoration project would be more appropriately undertaken during project-level analysis.

SCAQMD-7

The air quality mitigation measures specified, plus other mitigation measures proven to be effective in controlling construction and operational emissions, would be more appropriately included as part of the project-level analysis when site-specific details are developed and construction requirements are identified. Development of a detailed mitigation monitoring and reporting plan would also be conducted as part of the project-level analysis.

Further, the SCAQMD requests that these mitigation measures be included in all future CEQA documents prepared for the preferred alternative.

7. In addition to the mitigation measures described in comment #6, the SCAQMD requests that the following mitigation measures also be included in the Final PEIR, mitigation monitoring plan, all future CEQA documents and the Statement of Findings, and all future CEQA documents for the preferred alternative:

   - All on-road heavy-duty mobile sources used in connection with implementing the preferred alternative shall meet year 2010 on-road emission standards of 0.2 grams per brake horsepower-hour (g/bhp-hr) for NOx and 0.01 g/bhp-hr for PM.
   - In addition to meeting Tier 2 emission standards, marine vessels shall use marine fuel with a maximum sulfur content of 0.1 percent in both main and auxiliary engines.
   - Any locomotives used in connection with implementing the preferred alternative shall comply with Tier 3 standards.
   - All future CEQA documents prepared for the preferred alternative shall include an analysis of the feasibility of implementing all control measures identified in the "Next Steps" section in Appendix E, Attachment E5.

8. Item #6 in Table 10-14 includes the following "control measures":

   - 30 percent of the Exposed Playa would not be emissive (nonemissive);
   - 50 percent of the Exposed Play would use Air Quality Management, such as water efficient vegetation (assumed 95 percent control efficiency); and
   - 20 percent of Exposed Play would use other Air Quality Management measures (assumes 85 percent control efficiency).

   Given the current state of knowledge with regard to emissivity of future exposed playa areas, these assumptions may be appropriate at this time as part of the analysis in the DPEIR. However, the SCAQMD requests that the lead agency consider the following points. First, the SCAQMD requests that the validity of these assumptions be tested and evaluated as part of any future CEQA documents. Second, it may not be reasonable to assume that "nonemissive" playa areas will never be emissive. The lead agency needs to identify backup fugitive dust management measures for the "nonemissive" playa areas should they become emissive because of windblown dust or become destabilized and emissive. Third, the SCAQMD requests that the lead agency specifically identify the "Air Quality Management" measures that comprise the third bullet point. Finally, the SCAQMD requests that any backup measures to control fugitive dust from "nonemissive" playa areas and measures identified as part of the "Air Quality Management" measures be identified as mitigation measures and incorporated into the documents identified in comment #6 above.

SCAQMD-7 cont.

SCAQMD-8

SCAQMD-9

SCAQMD (cont.)

SCAQMD-8

See response to comment SCAQMD-7.

9. Staff evaluated the construction air quality analysis methodology in Appendix E and believes that, at the programmatic level, the analysis methodology is generally acceptable. The lead agency estimated the volume of rock, gravel, etc., used per year that would be necessary to construct barriers, perimeters, dykes, etc. Then based on operating hours of various types of equipment, load factors, emission factors, etc., developed an emission factor per cubic yard, multiplied the emission factor by total number of cubic yards used per year and then divided the result by the number of operating days per year to obtain an average daily construction estimate. First, staff could not validate the emission factor because the intermediate data such as the actual number of pieces of construction equipment, marine barges, etc., and equations were not included in the DPEIR. The main point, however, is that this approach will not be acceptable at the project-specific level because calculating annualized average daily emissions generally underestimates peak daily construction emissions. Construction proceeds in phases where some phases will require different numbers and types of construction equipment. As a result, for the project-specific analysis, SCAQMD staff expects that actual construction scenarios will be identified and specific types and numbers of equipment will be estimated to identify peak daily construction emissions. Any mitigation measures would then be based on peak daily emissions, not average daily emissions.

10. In response to the SCAQMD Governing Board's Environmental Justice Enhancements, the SCAQMD adopted a methodology to analyze localized air quality impacts and localized significance thresholds (LSTs). The SCAQMD does not require an LST at the program EIR level. However, the SCAQMD requests that LST analyses be prepared for all subsequent project-specific CEQA analyses. Information on preparing an LST analysis can be found online at the following URL: http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

11. On pages 10-23 and 10-24 the lead agency discusses toxic air contaminants (TACs) in a very general fashion, primarily identifying potential TACs of concern. The lead agency then does not address TAC emissions again except to say on page 10-37 that the project level analyses will address criteria pollutants, in addition to NOx and PM10, and TACs. Because of the potential exposure to TACs from construction activities (diesel PM10 from construction equipment) and the potential for exposure to windblown toxic sediments from the sea as it recedes, the lead agency should make a stronger commitment to evaluating TACs than simply saying, in some cases TACs would be evaluated. The SCAQMD requests that in the adopting resolution the lead agency make a firm commitment to analyzing and mitigating significant TAC emissions as part of project-specific CEQA documents to follow the PEIR.

SCAQMD (cont.)

SCAQMD-10

SCAQMD-9

The assumptions in the Draft PEIR were used to help determine, for planning purposes, the overall water budget needed to support air quality management options, such as water efficient vegetation. All Exposed Playa areas must be managed unless they pass the ball drop test or otherwise are proven to be continuously stable and non-emissive. These assumptions, as well as the effectiveness of mitigation measures to control emissions, would be addressed during project-level analysis. Other air quality management measures that would achieve control efficiencies comparable to currently proven best measures would likely be drawn from the list in Table H3-2 (page H3-14) of the Draft PEIR, after testing and refinement in an air quality research and development program.

SCAQMD-10

The development of the derived emission factors is shown in Tables E2-17, E2-18, and E2-19 of the Draft PEIR. For clarification, the following text was added to Attachment E2, page E2-4, second paragraph: "The construction equipment emissions were calculated by multiplying the quantities (cy/yr) by the derived emission factor (lb/cy) and by the weighted fraction of the material handling capacity. For example, NOx emissions from large equipment equaled: quantity (cy/yr) x 0.004 (lb/cy) x (125/ (125+ 80 +45))."

SCAQMD-11

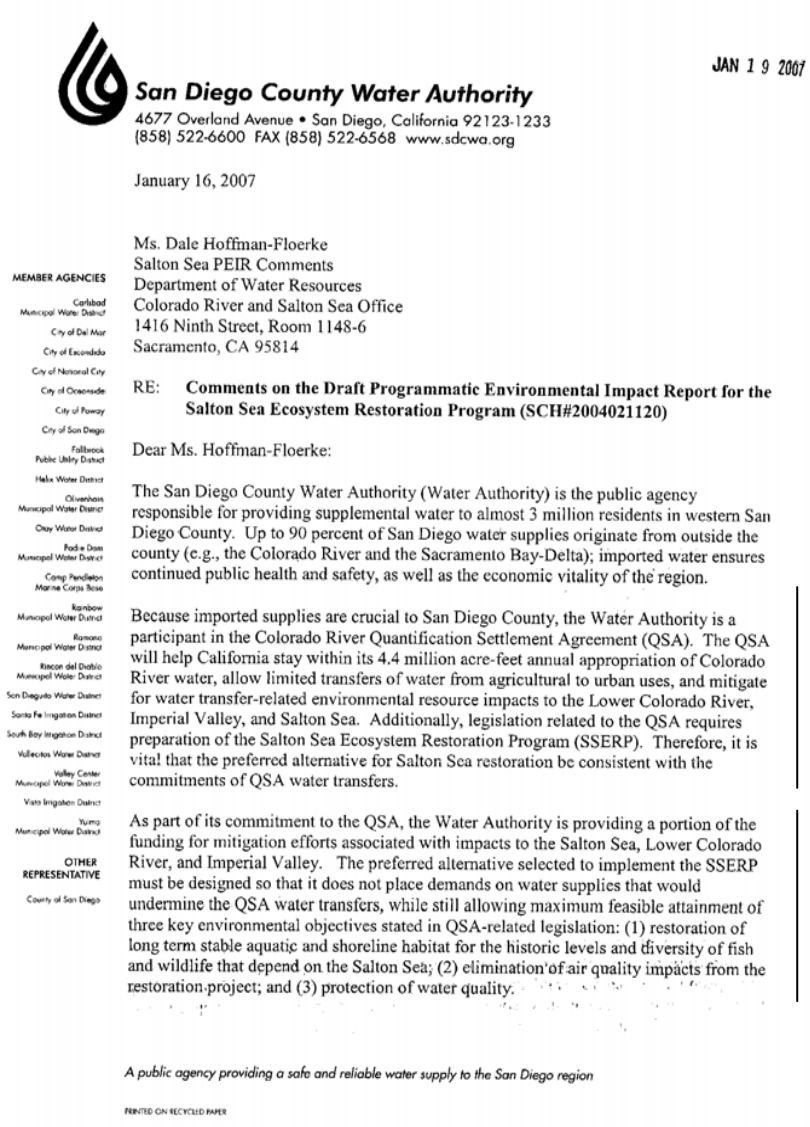
Although only average daily construction emissions were analyzed, the impact assessments summarized in Table 10-15 of the Draft PEIR would not change if peak daily construction emissions were evaluated, because of the assumptions used in the calculations. An evaluation of peak daily construction emissions including the specific types and numbers of equipment would be conducted during project-level analysis. Mitigation measures would also be based on peak daily construction emissions estimated for the Preferred Alternative.

SCAQMD-11

An evaluation of localized air quality impacts of the alternatives is beyond the scope of this Draft PEIR. An analysis of localized air quality impacts and localized significance thresholds (LSTs) would be more appropriately conducted during project-level analysis.

SCAQMD-12

An analysis of hazardous air pollutants and human exposures that may result from construction activities or windblown dust from the Salton Sea as it recedes would be conducted during project-level analysis, to the extent that this assessment is feasible based on available information. In addition, development of mitigation measures to specifically address hazardous air pollutants would be part of project-level analysis.



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JAN 19 2007

January 16, 2007

Ms. Dale Hoffman-Floerke
Salton Sea PEIR Comments
Department of Water Resources
Colorado River and Salton Sea Office
1416 Ninth Street, Room 1148-6
Sacramento, CA 95814

RE: **Comments on the Draft Programmatic Environmental Impact Report for the Salton Sea Ecosystem Restoration Program (SCH#2004021120)**

Dear Ms. Hoffman-Floerke:

The San Diego County Water Authority (Water Authority) is the public agency responsible for providing supplemental water to almost 3 million residents in western San Diego County. Up to 90 percent of San Diego water supplies originate from outside the county (e.g., the Colorado River and the Sacramento Bay-Delta); imported water ensures continued public health and safety, as well as the economic vitality of the region.

Because imported supplies are crucial to San Diego County, the Water Authority is a participant in the Colorado River Quantification Settlement Agreement (QSA). The QSA will help California stay within its 4.4 million acre-feet annual appropriation of Colorado River water, allow limited transfers of water from agricultural to urban uses, and mitigate for water transfer-related environmental resource impacts to the Lower Colorado River, Imperial Valley, and Salton Sea. Additionally, legislation related to the QSA requires preparation of the Salton Sea Ecosystem Restoration Program (SSERP). Therefore, it is vital that the preferred alternative for Salton Sea restoration be consistent with the commitments of QSA water transfers.

As part of its commitment to the QSA, the Water Authority is providing a portion of the funding for mitigation efforts associated with impacts to the Salton Sea, Lower Colorado River, and Imperial Valley. The preferred alternative selected to implement the SSERP must be designed so that it does not place demands on water supplies that would undermine the QSA water transfers, while still allowing maximum feasible attainment of three key environmental objectives stated in QSA-related legislation: (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.

MEMBER AGENCIES
Carlsbad Municipal Water District
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City of Escondido
City of National City
City of Oceanside
City of Poway
City of San Diego
Fallbrook Public Utility District
Helix Water District
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OTHER REPRESENTATIVE
County of San Diego

A public agency providing a safe and reliable water supply to the San Diego region

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SDCWA-1

SDCWA-2

San Diego County Water Authority (SDCWA)

SDCWA-1

The State agrees with the comment. As described in Chapter 3 of this Final PEIR, the Preferred Alternative is consistent with the QSA.

SDCWA-2

See response to comment SDCWA-1.

Ms. Hoffman-Floerke
Salton Sea Restoration DPEIR Comments
January 16, 2007
Page 2 of 2

JAN 19 2007

The Water Authority understands that a more detailed, project-specific Environmental Impact Report (EIR) will be prepared for the selected preferred alternative. However, the alternatives analysis currently contained the draft Programmatic EIR raises concerns that could affect selection of the preferred alternative:

1. The analysis does not use a consistent basis for evaluating each alternative. Two alternatives (#4 and #7) do not incorporate the same assumptions regarding long-term air quality management as the other six alternatives. The Final PEIR should be revised to incorporate consistent, basic assumptions for each alternative so that comparable analyses can be conducted for all of the alternatives.

SDCWA-3

2. The analysis does not accurately reflect current alternative design criteria. Again, at least two alternatives (#4 and #7) have undergone extensive revisions since initially identified and analyzed in the draft PEIR. The Final PEIR should be revised to incorporate these design changes so that comparable analyses can be conducted for all the alternatives.

SDCWA-4

The Water Authority will continue to be involved in the SSERP process and appreciates the opportunity to provide input on this important issue. Please direct any questions you have regarding this response to either Bill Tippets (858-522-6784) or me (858-522-6752) at the above address.

Sincerely,

Laurence Purcell

Laurence Purcell
Water Resources Manager

SDCWA (cont.)

SDCWA-3

As identified by the commenter, the air quality assumptions for Alternatives 4 and 7 in the Draft PEIR differ from those used for the other alternatives. The assumptions used for the other alternatives could be incorporated into Alternatives 4 and 7. In general, this would slightly reduce the amount of water available for other uses (such as Saline Habitat Complex and marine waterbodies) as additional water would need to be allocated to Air Quality Management actions. Additionally, incorporating these assumptions into Alternatives 4 and 7 would increase the construction and operations and maintenance costs for these two alternatives. Although the air quality assumptions differ for these two alternatives, this did not affect the selection of a preferred alternative because such measures could be incorporated during project-level analysis.

SDCWA-4

The Draft PEIR includes a reasonable range of alternatives as required by CEQA. Information from the Imperial Group and SSA was used to develop Alternatives 4 and 7, respectively. The modifications made by the Imperial Group and SSA to their proposals occurred after the Draft PEIR analysis was well underway. As described in Chapter 3 of the Final PEIR, the Preferred Alternative has been selected in coordination with the Imperial Group and SSA and their members, and includes many components of the Imperial Group's and SSA's alternatives. Assuming there is legislative direction to move forward with a restoration program, the Resources Agency anticipates that the Imperial Group, SSA, and others will have additional opportunities for participation in the development of project-level analysis.

Salton Sea Authority

January 15, 2007

Dale Hoffman-Floerke
Chief, Colorado River & Salton Sea Office
California, Resources Agency, Department of Water Resources
P.O. Box 942836
1416 Ninth Street
Sacramento, CA 94236-0001

Subject: Salton Sea Restoration Draft Programmatic EIR Comments

Dear Dale Hoffman-Floerke,

The Salton Sea Authority (SSA) respectfully submits its comments regarding the Salton Sea Ecosystem Restoration Draft Programmatic Environmental Impact Report (Draft PEIR).

We believe the Draft PEIR, as currently written is inadequate on many levels including a flawed analysis of the SSA Plan and a failure to include new information, mitigation measures and essential elements of the SSA alternative that reduce environmental impacts to a level that is less significant than analyzed in the Draft. The SSA submittal and accompanying technical reports and comments demonstrate that the Draft PEIR is incomplete. The comments contained here in will complete the Draft PEIR and demonstrate that the locally developed Salton Sea Authority's Plan contains the key components that create the Preferred Alternative envisioned by Legislation; a Preferred Alternative that the Secretary can recommend to the Legislature which enjoys deep and widespread public support. **SSA-1** **SSA-2**

The augmented SSA Restoration Plan must be re-analyzed in leiu of the March 2006 incomplete draft that has been circulated as part of this EIR. We believe that analysis will demonstrate that the augmented SSA Plan should serve as the platform for the type of balanced and comprehensive vision required for this important effort. **SSA-3**

The local plan includes elements and amendments added in response to public input, technical research, environmental community requests, DWR information and requests, and Technical Advisory Committee comments. It is the product of a 10-year collaborative process and has demonstrated wide-spread support of residents and local governments who live with the Salton Sea every day and will continue to do so in the future.

Of all the alternatives presented in the Draft PEIR, the SSA Plan as augumented by these comments maintains the greatest portion of the Salton Sea and preserves more fish and **SSA-4**

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Salton Sea Authority (SSA)

SSA-1

The Draft PEIR and the Final PEIR include a reasonable range of alternatives as required by CEQA and are based on the best available scientific information. Information from the SSA was used to develop Alternative 7, and the SSA's redesign of its proposal occurred after the Draft PEIR analysis was well underway. Although the SSA proposal has continued to evolve, the State's March 2006 information submittal deadline was necessary to complete the analysis and the Draft PEIR within a reasonable timeframe, particularly in view of the statutory deadlines for completion of the restoration study and programmatic environmental document.

Although the modifications to the SSA's alternative have not been included in either the Draft or Final PEIR, the modifications are within the range of alternatives and configurations evaluated in the Draft PEIR. The absence of these additional modifications in Alternative 7 did not preclude the alternative from being considered as part of a future restoration program, because these modifications could be considered during project-level analysis as mitigation measures.

As described in Chapter 3 of the Final PEIR, the Preferred Alternative has been selected in coordination with the SSA and its member agencies, and includes many components of the SSA's recent alternative. However, the Resources Agency understands that changes to the SSA's proposed alternative are ongoing. The Resources Agency anticipates that the SSA and others would have additional opportunities for participation in the development of project-level analysis.

SSA-2

As described in Chapter 3 of this Final PEIR, the Preferred Alternative recommended by the Secretary for Resources includes a variety of components that are intended to meet the legislative mandates of providing the maximum feasible attainment of the following objectives:

- 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;
- Elimination of air quality impacts from the restoration project; and
- Protection of water quality.

Specifically, the Preferred Alternative includes 62,000 acres of Saline Habitat Complex, a 45,000-acre Marine Sea, incorporates the air quality "tool box" measures to eliminate, to the extent feasible, air quality impacts from the restoration project, and includes other measures and design considerations that would work to protect water quality. Under the Preferred Alternative, Air Quality Management and the Saline Habitat Complex would have the highest priority for inflows, followed by inflows into the Marine Sea.

SSA (cont.)

**SSA-2
cont.**

The 62,000-acre Saline Habitat Complex included in the Preferred Alternative would be located in the southern and northern portion of the Salton Sea and would provide habitat for a variety of avian species, such as shorebirds, waterfowl, and potentially for fish-eating birds, including sensitive species currently found at the Salton Sea. It is expected that the Saline Habitat Complex would also provide limited habitat for some fish species, such as tilapia, and thus, provide foraging habitat for fish-eating birds. The Saline Habitat Complex is expected to provide the microclimate benefits that currently exist at the Salton Sea, and could be constructed using a variety of construction methods including Geotubes®.

The 45,000-acre Marine Sea included in the Preferred Alternative would be located primarily in the northern portion of the Sea, but would extend down the majority of the eastern and western shorelines. It is intended to support a marine fishery and fish-eating birds (such as pelicans, double-crested cormorants, and black skimmers). The Marine Sea would stabilize at a water surface elevation of -230 feet msl with a salinity between 30,000 mg/L and 40,000 mg/L. The water depth would be less than 10 to 12 meters (39 feet) to reduce hydrogen sulfide generation and potential fish kills due to long-term temperature stratification (temperature variations from top to bottom of the sea).

The Preferred Alternative incorporates the air quality “tool box” measures to eliminate, to the extent feasible, air quality impacts from the restoration project. These measures include the allocation of 0.5 acre-foot per acre of water to manage emissive areas of the Exposed Playa. The Preferred Alternative also includes actions and mitigation measures to reduce air quality impacts that could result from construction and operations and maintenance activities.

Although not a legislatively mandated objective, the Saline Habitat Complex is expected to allow for passive recreational opportunities, such as bird watching. Additionally, the Marine Sea would provide for water-based recreational opportunities that have historically occurred at the Salton Sea. This would include boating and fishing opportunities and allow for the ongoing operation of the majority of the existing harbors at the Salton Sea.

The Preferred Alternative also includes a variety of actions that could be implemented within the 5-year timeframe after the Legislature provides direction on implementation of a restoration program and identifies a future implementing agency. These actions include activities such as Early Start Habitat and measures targeted to address air quality uncertainties.

See Chapter 3 of this Final PEIR for a more detailed description of the Preferred Alternative. The Preferred Alternative includes many of the components of the various versions of the SSA’s Restoration Plan.

SSA (cont.)

SSA-3

See response to comment SSA-1.

SSA-4

See response to comments SSA-2 and SSA-1.

wildlife than any other proposal. Only the SSA Plan improves water quality before and after it enters the Sea and reduces odors to surrounding communities. It also provides a comprehensive improvement to air quality, thus reducing impacts and protecting public health. The local plan preserves the greatest amount of meaningful shoreline and provides the most recreational opportunities for California. Equally important, the Plan is supported by the Torres Martinez Tribe of Desert Cahuilla Indians because it provides the greatest benefit to cultural, spiritual, economic and environmental values essential to the Tribe.

SSA-4 cont.

While cost is an important factor for all alternatives under consideration, the SSA Plan would generate a tremendous upside in economic benefit to offset any cost. Studies by economists show that the SSA Plan would provide an annual non-direct economic benefit of $1 billion to $5 billion in addition to the estimated $7 billion in increased tax revenues generated along with thousands of new jobs and associated ongoing economic benefits to the region and the state.

SSA-5

Importantly, the SSA Plan is the only alternative with a local funding component critical to its implementation. This is made possible by the support of local agencies and the generation of large-scale economic and recreational opportunities. This critical element must be considered in the development of a preferred alternative and makes the local plan a clear standout from a practical perspective.

There has been much done to understand the Sea and it's ecosystem over the last few decades, yet much work remains. The Authority has new research currently underway on water treatment approaches, aggregate supply, barrier locations and design, habitat approaches, and funding strategies. The Authority intends to remain a strong and active participant throughout the upcoming months, years and decades in the planning and implementation of Restoration Plan.

For these and other reasons detailed in the SSA full submittal, the SSA Plan should be further analyzed in the Draft PEIR and ultimately adopted as the environmentally superior alternative. SSA is committed to successfully restoring and preserving the splendor of the Salton Sea. We look forward to working with you to achieve that goal.

SSA-6

Respectfully,

Rick Daniels
Executive Director
Salton Sea Authority

SSA (cont.)

SSA-5

See response to comments SSA-2 and SSA-1

SSA-6

See response to comments SSA-2 and SSA-1. The commenter appears to be confusing the “environmentally superior alternative” with the Resources Agency’s Preferred Alternative. The criteria for selecting the environmentally superior alternative were discussed in the Draft PEIR Executive Summary.

SSA (cont.)

Table of Contents

Salton Sea Authority

EXECUTIVE SUMMARY

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

I. Introduction

For millennia, half the full flow of the Colorado River sustained the immense and dynamic Lake Cahuilla ecosystem. That system offered one of the most significant wetlands habitats in North America, provided a critical link in the Pacific flyway, and served as the economic and spiritual heart of local Native American cultures. Over the last century, however, the Lake Cahuilla ecosystem has been reduced to a fraction of its former glory. Indeed, as a result of the countless diversions, dikes, dams, and developments of the Colorado River system in the last hundred years, what was once known as Lake Cahuilla no longer exists. What remains is the Salton Sea.

Unlike Lake Cahuilla, today's Salton Sea is not sustained by the natural flow of the Colorado River. Instead, it is now fed largely by agricultural return flows and other minimal sources. Despite this setback, the Salton Sea has been able to support an extensive biological and social environment, including the highest levels of avian diversity in the American Southwest, a compelling visual landscape and, at times, one of the most attractive recreational resources in all of California.

However, just as Lake Cahuilla devolved into the Salton Sea, the Salton Sea is threatened by its own form of extinction. As Colorado River waters are continually developed and transferred, and as agricultural return flows to the Salton Sea continue to decline, water quality in the Salton Sea continues to deteriorate, and environmental, social, and economic impacts related to the Salton Sea will emerge at an exponential rate. Particularly concerned are communities of the Coachella and Imperial Valleys, who are witnessing first-hand this unfortunate dilemma and continuing to suffer its deleterious effects.

For the Coachella and Imperial Valleys, the State of California, and the Southwestern United States and beyond, restoring the Salton Sea is not a question – it is an imperative. The critical issue, however, is how best to proceed. Recognizing the severity and complexity of this matter, the California Legislature mandated that the Department of Water Resources (DWR) undertake a "restoration study" to determine a preferred alternative for restoration of the Salton Sea ecosystem. Unfortunately, however, that study has been packaged in the form of a draft programmatic environmental impact report ("Draft PEIR"). This typical CEQA process unnecessarily constrains and fragments the restoration analysis. Consequently, the Draft PEIR fails to incorporate broad public policy goals, largely ignores socio-economic effects, and fails to provide a sufficient mechanism to accommodate the inevitable evolution of restoration concepts.

SSA-7

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SSA (cont.)

SSA-7

While the Resources Agency has a statutory mandate to "undertake a restoration study to determine a preferred alternative for the restoration of the Salton Sea ecosystem and the protection of wildlife dependent on that ecosystem," the Resources Agency also has a statutory mandate to prepare a programmatic environmental document (see Fish and Game Code Section 2081.7 (e)(1)). The Draft PEIR incorporates broad public policy goals in the development of alternatives and in the use of local land use policy goals to determine land use impacts of the various alternatives. Specifically, the development of the alternatives was conducted in coordination with the legislatively-mandated Salton Sea Advisory Committee, which is comprised of 32 members representing local, regional, state, and federal agencies, tribes, and non-governmental organizations. As described in Chapter 2 of the Draft PEIR, the Advisory Committee identified a range of issues to be considered in the development of alternatives (see page 2-2). This range of issues along with information provided by stakeholders and the public were used during the development of the alternatives to further define some of the project's objectives (see page 2-5 of the Draft PEIR). Additionally, local land use policies, as identified in the Imperial and Riverside County General Plans and the Torres Martinez Desert Cahuilla Indians' Land Use, Zoning and Development Plan were considered, as described in Chapter 11 of the Draft PEIR. The Draft PEIR also includes an analysis of potential conflicts with the goals and objectives of these plans. Thus, the Draft PEIR incorporates broad public policy goals both in the development and analysis of the alternatives.

The Draft PEIR includes an analysis of socio-economic effects in Chapter 22 "Economic and Social Effects."

The attached Salton Sea Authority Comments provide important new information to address those deficiencies, as well as a technical critique of certain information contained in the Draft EIR. Included are:

- The Salton Sea Authority Comments on the PEIR , denominated as follows:

  G-1 to G-17: General Comments on the PEIR;

  PS-1 to PS-37: Page specific comments, including some comments that identify how the PEIR would be changed to reflect the updated version of the Salton Sea Authority Plan;

  AQ-1 to AQ-165: Comments specific to all air quality and salt crust issues; and

  C-1 to C-14 Comments that address environmental and logistical concerns that have been raised by the Pacific Institute, DFG, and others in regard to the feasibility and impacts of implementing the Authority's plan.

- A description of the Salton Sea Authority's augmented Restoration Plan, which includes new elements that address concerns raised regarding the March, 2006 version analyzed by the Draft PEIR (Attachment 9a);

- Studies that substantiate and augment the technical feasibility of the Authority's Plan (Attachments 1, 2, 6, 7, 8, 9b, 9c, 10 and 11);

- Studies that demonstrate the natural and economic benefits, and potential local funding sources, that would be generated by a restored Sea (Attachments 2, 3 and 4).

SSA-8

II. The SSA Restoration Plan

The Authority's Restoration Plan has been in development for more than 10 years and embraces more than 40 years of scientific and engineering studies specifically concerning the Salton Sea. It has included widespread stakeholder involvement, enjoys unified support by residents and local governments, and is structured to address the broad and complex range of environmental, social and economic issues at stake in this matter. SSA's Restoration Plan provides a reasoned blueprint for the future of the Salton Sea.

SSA-9

The Draft PEIR considered SSA's Restoration Plan as it existed in March 2006. At that time, the primary features of the Plan included a mid-sea barrier to maintain a recreational saltwater lake in the northern portion, a recreational estuary lalke in the southern portion, a recirculation canal, a fresh water reservoir, a shallow water saline habitat complex, and two

SSA (cont.)

SSA-8

This comment provides an overview of the comments that follow. Responses to the specific comment that follow are provided below by comment number.

SSA-9

As previously identified, the Preferred Alternative includes many of the components of the SSA's restoration plan. Based on the public outreach meetings conducted for the restoration program and comments submitted on the Draft PEIR, the SSA's plan is widely endorsed by residents and local governments; however, the State respectfully disagrees with the comment that the SSA's Plan "enjoys unified support by the residence and local governments." Rather, some local governments and numerous residents have expressed support for other alternatives (see comments submitted on the Draft PEIR in Chapters 8, 9, and 10 of this Final PEIR).

water quality treatment plants.

Since March 2006, SSA has received significant input from the general public, Salton Sea Coalition, DWR, DFG, and the Salton Sea Technical Advisory Committee. In turn, SSA quickly incorporated that information into a revised Restoration Plan. While the core elements of its former Plan remain intact, SSA's augmented Plan contains several additional components that are critical to a successful restoration effort for the Salton Sea. SSA submitted this new information to DWR in November 2006. Key new provisions provided by SSA's augmented Plan include:

- Modified water diversion provisions to provide priority for, and lower salinity in, the saline habitat complex;
- Increased acreage of the saline habitat complex;
- Additional air quality mitigation measures based on the air quality mitigation "toolbox" developed by the Restoration Study, including salt tolerant vegetation, water for mitigation, etc.;
- A conveyor system to move rock from a quarry at Coolidge Mountain to the Salton Sea, which would essentially eliminate fugitive dust and emissions from truck traffic;
- Additional water quality contingencies to be implemented if the treatment plants provide infeasible; and
- Additional flexibility to move the mid-sea barrier, if necessary, to meet the Draft PEIR's inflow requirements.

Of all the alternatives presented in the Draft PEIR, the SSA's augmented Plan maintains the greatest portion of the Salton Sea and preserves more fish and wildlife habitat than any other proposal. Only the SSA's Plan will improve water quality to a level sufficient to reduce odors to surrounding communities and other sensitive receptors. It also provides the most comprehensive approach to fugitive dust mitigation, thus reducing environmental impacts and protecting public health. SSA's Plan maintains extensive portions of the existing shoreline with water that provides the greatest recreational opportunities. Equally important, the Plan is supported by the Tribe of Torres Martinez Desert Cahuilla Indians, the historic beneficiary of Lake Cahuilla. Indeed, the SSA Plan provides the best alternative with respect to preserving cultural, spiritual, economic and environmental values that are essential to the Tribe. These and countless other elements make SSA's Restoration Plan the superior basis upon which to develop and adopt the preferred alternative under the CEQA process.

SSA-10

III. Comments on the Draft PEIR

A. Air Quality Impacts

SSA (cont.)

SSA-10

See response to comments SSA-2 and SSA-1. As identified in the Salton Sea Restoration Act (Fish and Game Code 2931(c)(1-3)), "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. (2) Elimination of air quality impacts from the restoration projects. (3) Protection of water quality." The process for section of the Preferred Alternative is described in Chapter 3 of this Final PEIR. While Alternative 7 was not selected as the Preferred Alternative, the Preferred Alternative includes many of the components of Alternative 7.

A recent study by the Pacific Institute concluded that unless effective action is taken soon, air quality impacts from the deteriorating Salton Sea could render large portions of the Imperial and Coachella Valleys uninhabitable. Accordingly, CEQA requires the alternatives analysis of the Draft PEIR to provide a detailed analysis of potential air quality impacts and strategies for mitigating those impacts.

Unfortunately, the Draft PEIR significantly misconstrues the air quality impacts discussed in SSA's Restoration Plan. In Chapter 10, the Draft PEIR indicates that SSA's March 2006 Plan could produce substantially greater air quality impacts than other alternatives. This conclusion was reached, however, based on two erroneous assumptions. First, the Draft PEIR fails to sufficiently analyze air quality impacts associated with significant truck travel over dirt roads to transport large quantities of rock needed for the mid-sea barrier and other dike systems. That truck travel would result in extensive dust and exhaust emissions. Second, the Draft PEIR improperly concludes, without sufficient analysis, that SSA's proposal to use salt crust to mitigate fugitive dust from exposed playa would be ineffective. SSA's augmented Restoration Plan provides the superior environmental alternative with regard to air quality impacts. **SSA-11**

(1) Construction Activities. Air quality impacts related to truck travel are addressed and mitigated by SSA's revised Plan by proposing the installation of a two-mile long conveyor system to move rock from a quarry at Coolidge Mountain to the Salton Sea. Those materials would then be transported by barge to appropriate construction locations. The use of the conveyor system would essentially eliminate fugitive dust and diesel exhaust generated by using trucks to transport rock for the mid-sea barrier and other dike systems. **SSA-12**

(2) Exposed Playa. The Draft PEIR greatly over-estimates the fugitive dust impacts generated by exposed playas under SSA's Plan. First, it is important to note that because SSA's proposal maintains more water surface area than any other proposal, SSA's proposal would expose less potentially emissive playas than other alternatives. The Draft PEIR fails to sufficiently analyze that relationship. **SSA-13**

Second, the Draft PEIR assumes, again without sufficient analysis, that salt deposits left by receding waters would be emissive. This conclusion is based on an erroneous comparison with Owens Lake, where the salt composition and deposition process are much different and extremely emissive as compared to the Salton Sea. The more appropriate comparison is with the Bonneville Salt Flats, where the salt composition and deposition process are more like that of the Salton Sea. Notably, while the Bonneville Salt Flats have proven to be stable over time and non-emissive, that analysis is not provided in the Draft PEIR. **SSA-14**

Third, the Draft PEIR fails to credit the portion of SSA's Restoration Plan that mitigates emissions from playas above -255 feet by controlled evaporation and formation of a protective salt crust. Instead, the Draft PEIR simply concludes that the entire Phase IV exposed playas would be unmitigated. **SSA-15**

Fourth, the Draft PEIR ignores the demonstrated fact that a stable, non-emissive salt crust can be formed by controlled evaporation of Salton Sea water. Pilot demonstration projects at the Salton Sea, along with large scale operations and long-term experience at the Bonneville Salt Flats, show that controlled evaporation provides an effective mitigation measure. **SSA-16**

SSA (cont.)

SSA-11

The Draft PEIR assumed similar construction methods, including the use of trucks, for each type of facility common to the various alternatives (e.g., construction of barriers, berms, and air quality management). This approach was chosen to allow comparison of the overall alternatives, even though the construction techniques and mitigation measures ultimately implemented would likely vary among the alternatives. Alternative construction methods were identified in the Draft PEIR. Future project-level analysis may differentiate between construction methods to provide a range of methods for comparison of impacts and evaluation of mitigation effectiveness. While the commenter disagrees with the approach taken in the Draft PEIR, the approach was necessary to allow for comparison among the alternatives.

The analysis of Alternative 7 assumed that more of the Exposed Playa would be covered by a Marine Sea, Saline Habitat Complex, or a Brine Sink than other alternatives (with the exception of Alternatives 1 and 2). It also assumed that 60 percent of the Exposed Playa area (below elevation -255 feet msl) was to be controlled with an engineered salt crust, as specified by the SSA as part of its March 28, 2006 project description submittal (see Appendix I of the Draft PEIR). Like similar, yet unproven, air quality management methods in the "tool box" of available options, this control measure was assumed to achieve 85 percent control of dust from the Exposed Playa. In the March 28, 2006 project description submittal, no Air Quality Management method was identified for nearly 40 percent of the Exposed Playa area (above elevation -255 feet msl). As indicated on page 10-82 of the Draft PEIR, for the areas with no long-term Air Quality Management program, 30 percent of the area was assumed to be non-emissive, and up to 70 percent was assumed to be potentially emissive. Uncontrolled emissions were estimated for these potentially emissive and uncontrolled areas. Air Quality Management measures that would achieve control efficiencies comparable to currently proven best measures may be implemented to reduce these emissions as mitigation measures during project-level analysis, after testing and refinement in an air quality research and development program.

SSA (cont.)

SSA-12

See response to comment SSA-11. The use of a train or conveyor system to transport rock from a potential quarry at Coolidge Mountain to the Salton Sea would reduce diesel exhaust and fugitive dust emissions, when compared to transport of materials in heavy-duty trucks. However, the approach used to compare the alternatives in the Draft PEIR was to rely on a common set of assumptions (see Chapter 3), such as using heavy-duty trucks to transport materials. The Draft PEIR presented a discussion of potential mitigation measures, such as the use of trains or conveyor systems, in Appendix E, Attachment E-5. These and other mitigation measures could apply to any of the alternatives and could be considered as part of future project-level analysis.

SSA-13

The analysis of Alternative 7 assumed that more of the Exposed Playa would be covered by a Marine Sea, Saline Habitat Complex, or a Brine Sink than other alternatives (with the exception of Alternatives 1 and 2). It also assumed that 60 percent of the Exposed Playa area (below elevation -255 feet msl) was to be controlled with an engineered salt crust, as specified by the SSA as part of its March 28, 2006 project description submittal (see Appendix I of the Draft PEIR). Like similar, yet unproven, air quality management methods in the "tool box" of available options, this control measure was assumed to achieve 85 percent control of dust from the Exposed Playa. In the March 28, 2006 project description submittal, no Air Quality Management method was identified for nearly 40 percent of the Exposed Playa area (above elevation -255 feet msl). As indicated on page 10-82 of the Draft PEIR, for the areas with no long term Air Quality Management program, 30 percent of the area was assumed to be non-emissive, and up to 70 percent was assumed to be potentially emissive. Uncontrolled emissions were estimated for these potentially emissive and uncontrolled areas. Air Quality Management measures that would achieve control efficiencies comparable to currently proven best measures may be implemented to reduce these emissions as mitigation measures during project-level analysis, after testing and refinement in an air quality research and development program.

SSA (cont.)

SSA-14

As described in Appendix H3 of the Draft PEIR, actual emissions would be monitored and Air Quality Management actions implemented on an as needed basis. Emissions rates (presented in Appendix E) were based on the best available data at the time of preparation of the Draft PEIR. In Appendix E, studies are presented which demonstrate that sites on Exposed Playa around the margin of the Salton Sea exhibit seasonal softening, accompanied by a potential seasonal increase in emissions rates. The softening process appears to be related to formation of hydrated sulfate salts, and is similar to what has been observed at Owens Lake. See response to comments SSA-91 and SSA-93, below for additional information.

SSA-15

See response to comment SSA 13.

SSA-16

See response to comment SSA-13. Demonstrations of the feasibility and effectiveness of managed salt ponds for Air Quality Management actions at Salton Sea were not available at the time the Draft PEIR was prepared.

Finally, SSA's revised Restoration Plan includes an additional 25,000 acre-feet of reserved water for dust control of the 50,000 acres of exposed playa expected to surround the brine pool and provides for the use of additional air quality mitigation from the "toolbox" as needed to address air quality related impacts . Consequently, SSA's augmented Plan offers a far more effective long-term air quality mitigation strategy than the other alternatives.

(B) Water Quality

Maintaining high water quality levels is a key objective and significant component of SSA's Restoration Plan. In fact, SSA's Plan is the only alternative that proposes a comprehensive water treatment program, including wetlands and water treatment facilities, to restore and maintain high water quality levels for both deep marine sea areas and surrounding shallow habitat. As of March 2006, even though SSA's Plan was more protective to water quality than any other proposal, it was limited to water treatment plants capable of removing phosphorous from the Alamo River and the recreational salt water lake. Since that time, SSA has been conducting additional studies on ozonation infiltration and hydrogen sulfide to improve the effectiveness of its proposed water treatment plants.

The SSA's augmented Plan also includes a contingency measure that would allow the north lake level to be lowered by up to 10 feet. Scientific data suggests this is the point at which natural effects may eliminate hydrogen sulfide buildup and catastrophic releases that cause fish kills and significant odor problems. Under this two-tiered approach, SSA is confident the north lake will provide great value as a wildlife habitat and mitigation resource.

Additionally, the Authority has included as part of its water quality treatment plan, the construction of wetlands along the New and Alamo Rivers for reducing coliforms, suspended solids, total phosphorous and total nitrogen entering the Salton Sea system. It is estimated that after flows from Mexico are eliminated from the New River, and after full buildout of all 35 proposed wetlands along the New and Alamo rivers, a 35% reduction of phosphorus entering the Salton Sea will be affected.

The Authority is also investigating a controlled eutrophication approach to remove phosphorous from the incoming rivers. The Salton Sea Authority has investigated this in the past with research performed by Ken Sea Tech (Salton Sea Biological Remediation Program, 2003). The Authority is now seeking funds to implement a pilot demonstration project to assess the performance of a controlled eutrophication project using New or Alamo river water, solely or in combination with drain water. Information included in the PEIR strongly supports efforts to reduce internal and external phosphorus loadings in the Sea, in order to improve water quality in any preferred alternative. To date, the controlled eutrophication project offers some promise of meeting such needs, at least at a limited scale. Scaling up the project and using Imperial Valley drainage water will provide important information on the performance of this project.

Without the efforts of the Authority, Imperial County farmers have reduced phosphorus loading of the New and Alamo Rivers by 50%, simply by changing their field flooding practices. The Salton Sea Authority believes that continued source control, in combination with the wetlands projects and a potential controlled eutrophication system, water quality in the Salton Sea can be improved substantially without the use of traditional water treatment facilities.

SSA-17

SSA-18

SSA-19

SSA-20

SSA-21

SSA (cont.)

SSA-17

See response to comment SSA-1. The Draft PEIR includes a reasonable range of alternatives as required by CEQA. As described in response to comment SSA-1, the modifications to the SSA's alternative have not been included in either the Draft or Final PEIR. However, the modifications are within the range of alternatives and configurations evaluated in the Draft PEIR and dido not preclude Alternative 7 from consideration in the future, because these modifications could be considered during project-level analysis as mitigation measures.

SSA-18

See response to comment SSA-1. Additionally, lowering the north lake as suggested by the commenter has the potential to result in air quality impacts as a result of emissions from Exposed Playa areas. Because no infrastructure would be located in these areas to mitigate this potential impact, lowering of the north lake is not considered a desirable management action.

SSA-19

A number of researchers from governmental agencies and academia concluded at the workshop on Eutrophic Conditions at the Salton Sea held in Riverside, California on September 7-8, 2000 that while wetlands have been shown to reduce nitrogen loads, they are not effective at removing phosphorus. The CRBRWQCB indicates in their comments on the Draft PEIR that the Mexicali II Wastewater Treatment Plant is expected to reduce total phosphorus loads into the Salton Sea by about 10 percent, which would mean the wetlands would have to reduce phosphorus loads by another 25 percent to achieve the 35 percent overall load reduction. The 25 percent phosphorus reduction for the full build-out of 35 wetlands is based on model results for which phosphorus loss was partitioned into uptake in wetlands and loss through seepage, though no data are available to determine what those uptakes and losses should be. Additionally, there are very little data on groundwater retention of phosphorus (or other constituents of concern) in the Imperial Valley. In addition, both the New and Alamo rivers have high phosphorus loads downstream from the area where the 35 proposed wetlands would be able to provide treatment. For the New River, this untreated load amounts to almost 50 percent of the drain load from this river, which would require the wetlands to achieve a 50 percent phosphorus reduction for the treatable portion of the river to achieve the 25 percent phosphorus reduction due to wetlands and the overall 35 percent phosphorus reduction at the Salton Sea, which is twice as high as model results indicate could be achieved.

SSA (cont.)

SSA-20

Results from the controlled eutrophication pilot demonstration program, if implemented and available, could be used during project-level analysis.

SSA-21

The measures identified in the comment could, in combination, contribute to reduction in phosphorus loads to the Salton Sea. Please see response to comment SSA-19 regarding the limitations of wetland treatment for phosphorus removal.

(C) Wildlife

Maintaining historic levels of fish, bird, and other wildlife has always been a primary objective of SSA's Restoration Plan. In this regard, SSA's Plan is the only alternative that provides for large areas of deep marine habitat needed to support the significant population and variety of marine sportfish and fish-eating birds. SSA-22

The Draft PEIR indicates that SSA's Plan would provide less saline habitat complex and, thus, support lower populations of shoreline birds than other alternatives. This analysis is incorrect. The Draft PEIR fails to credit the 1,250-acre estuarine habitat complex at the mouth of the Whitewater River, even though that complex is identified in SSA's March 2006 Restoration Plan. SSA-23

SSA's augmented Plan increases the size of this estuarine habitat complex by 550 acres to a total of 1,800 acres. In addition, the 12,000-acre saline habitat complex at the south end of Salton Sea has been expanded by 4,000 acres for a total of 16,000 acres. A no-wake zone could be included along sensitive areas of shoreline habitat on the recreational lake. Finally, if the controlled eutrophication process is added to the project design, an additional 11,000 acres of new bird habitat may become available. SSA-24

(D) Inflow Assumptions

The Draft PEIR analyzes alternatives based on mean projected inflows of 717,000 acre-feet per year. SSA believes that analysis is seriously flawed and is concerned of the potential, whether intended or not, to facilitate additional water transfers at the expense of the Sea. It should be noted that the QSA, CEQA and permit documents are predicated on post-QSA inflows of 978,000 acre feet per year. The Bureau of Reclamation's latest projections (11/15/04) projects post-QSA average inflows of 900,000 acre feet per year. SSA-25

The Authority believes that the PEIR's climate-related precipitation and evaporation analysis is particularly flawed and results in much lower inflows than if the analysis were to be corrected. The Authority also highlights how the PEIR's inflow assumptions do not take into account runoff, effluent and groundwater flow that would result from future residential commercial and industrial development around the Sea. SSA-26 SSA-27

Nevertheless, the Authority's augmented plan provides flexibility to function even under the state's very conservative inflow assumptions. The augmented plan provides a contingency to move the mid-sea barrier northward, reducing the size of the recreational lake, to accommodate reduced assumptions. SSA-28

SSA (cont.)

SSA-22

As described in Chapter 8 of the Draft PEIR, all of the alternatives have the potential to support forage fish for fish-eating bids and some of the alternatives have the potential to support a marine fishery. Alternatives 1 and 2 would support forage fish in Saline Habitat Complex areas. Alternative 3 would support forage fish in Saline Habitat Complex areas and has the potential to support a recreational sport fishery in the Second Ring. Alternative 4 has the potential to support a recreational sport fishery in the First, Second, and Third lakes, and fish with a high salinity tolerance in the Fourth Lake. Alternatives 5, 6, 7, and 8 all would support forage fish in Saline Habitat Complex areas and have the potential to support a recreational sport fishery once the salinity of the Marine Sea/Recreational Saltwater Lake has stabilized. However, the salinity of the Recreational Saltwater Lake in Alternative 7 is not expected to stabilize for many years, and may not stabilize by 2078. While Alternative 7 would provide deep marine habitat, as analyzed in the Draft PEIR, the Marine Sea in Alternative 7 is larger than can be sustained by the available inflows, and the inability of the Recreational Saltwater Lake to achieve the target salinity concentration of 30,000 mg/L to 40,000 mg/L over the life of the restoration program would clearly affect the ability of this alternative to support a marine sport fishery.

SSA-23

Based on the GIS data provided by the SSA in March 2006, the southern Saline Habitat Complex could provide 12,000 acres of shallow water habitat and the northern portion could provide 1,600 acres of shallow water habitat for a total of 13,600 acres. This is less than the Saline Habitat Complex provided by Alternatives 1, 2, 5, 6, and 8. Alternatives 3 and 4 do not provide for Saline Habitat Complex, although the concentric lakes would be managed similar to Saline Habitat Complex and therefore provide around 88,000 acres of habitat.

SSA-24

See response to comment SSA-1. As described in response to comment SSA-1, the modifications to the SSA's alternative have not been included in either the Draft or Final PEIR. However, the modifications are within the range of alternatives and configurations evaluated in the Draft PEIR and did not preclude Alternative 7 from being considered as part of a future restoration program because these modifications could be considered during project-level analysis as mitigation measures. The Draft PEIR and Final PEIR include a reasonable range of alternatives as required by CEQA.

SSA (cont.)

SSA-25

As described in Appendix H-2 of the Draft PEIR, the 717,000 acre-feet inflow was used in the analysis of all alternatives to allow for comparison of the alternatives. This inflow amount was selected in cooperation with the Inflows Working Group and was based on the best available data and technical information. This inflow amount was intended to minimize the risk of failure of an alternative to meet its habitat, air quality, and water quality goals that could result from an inadequate water supply. The higher flows shown in the QSA PEIR and in the U.S. Bureau of Reclamation's projections cited by the commenter do not take into account future uncertainties that could further reduce the inflows to the Salton Sea during the 75 year study period. It would be appropriate for reevaluation of future inflows to the Salton Sea to include the then most current flow data during project-level analysis.

SSA-26

This comment provides no substantive evidence as to why the commenter believes that the climate-related precipitation and evaporation analysis is flawed and results in a lower inflow to the Salton Sea. However, the future climate scenarios included in the Draft PEIR are consistent with those utilized in the Climate Action Team Report by the California Environmental Protection Agency (CalEPA, 2006) and described in the Appendix H-2 of the Draft PEIR. The Climate Action Team Report by the California Environmental Protection Agency indicates a strong trend toward increasing temperature, but relatively little change in total precipitation. At the Salton Sea, annual evaporation is nearly 30 times that of annual precipitation. Thus, in performing an uncertainty analysis evaporation was determined to be the parameter of greatest significance to the water budget. As described in Appendix H-2 of the Draft PEIR, the possible change in evaporation was assessed under the No Action Alternative-Variability Conditions by adjusting the rate of evaporation. This is a unit rate of evaporation and the volumetric impact depends on the water surface area of the particular alternative. See response to comments SSA-43 to SSA-45 for additional information.

SSA-27

Inflow changes to runoff, effluent, and groundwater flow from future residential, commercial, and industrial development were considered too speculative to be reasonably quantified under the risk-based approach over the 75 year period. The analysis considered a variety of factors that are described in Chapter 5 and Appendix H-2 of the Draft PEIR.

SSA-28

See response to comment SSA-1. As described in response to comment SSA-1, the modifications to the SSA's alternative have not been included in either the Draft or Final PEIR. However, the modifications are within the range of alternatives and configurations evaluated in the Draft PEIR and did not preclude Alternative 7 from being considered as part of a future restoration program because these modifications could be considered during project-level analysis as mitigation measures. The Draft PEIR and Final PEIR include a reasonable range of alternatives as required by CEQA.

(E) Social and Economic Effects

Unfortunately, the Draft PEIR provides only a cursory analysis of economic and social effects of the Salton Sea restoration process, even though such effects are among the most significant concerns of the local community. The facts are straightforward on this issue. The Salton Sea lies in the heart of the rapidly growing Coachella and Imperial Valleys. Thus, it is beyond dispute that the success or failure of any restorative effort will have lasting impacts on the social and economic well-being of millions. **SSA-29**

(1) Environmental Justice.

As an informative, proactive and protective document under CEQA, the Draft PEIR should provide additional analysis regarding Environmental Justice (EJ) issues. Indeed, EJ issues will be addressed in any later programmatic or project-specific EIS/EIR under the National Environmental Protection Act (NEPA) since those issues are part of NEPA's decision-making process in choosing a preferred alternative. Given the likely importance of EJ issues later in the process, SSA believes the decision not to consider them now as part of the Draft PEIR may result in the selection of an alternative that disproportionately affects children and underprivileged communities. **SSA-30**

Many communities surrounding the Salton Sea include significant percentages of low-income or minority populations who are specifically identified for analysis regarding disproportionate environmental impacts under EO 12898, Environmental Justice. Additional EJ analysis in the Draft PEIR should identify census tracts or broader geographic areas with substantial proportions of low-income or minority residents and determine whether any of the direct or indirect impacts of the restoration project might affect those communities to a greater extent than they would affect other communities. **SSA-31**

Direct or indirect impacts that could affect EJ-sensitive communities in the project area could include, without limitation:

- Access to recreational resources, particularly shoreline activities, as the shoreline of the Salton Sea changes in various ways under the proposed alternatives; **SSA-32**
- Indirect economic impacts from loss of business/employment associated with changes in recreational uses along the Salton Sea; **SSA-33**
- Indirect economic impacts associated with changes in agricultural practices in the Imperial Valley due to changes in water distribution under project implementation, thus leading to job losses or other economic changes; **SSA-34**
- Indirect environmental impacts associated with air quality impacts, including increased odors; and **SSA-35**

SSA (cont.)

SSA-29

The State agrees that any restoration program has implications for the social and economic well-being of the local community. With this in mind, and in compliance with the statutory mandate for the Salton Sea Ecosystem Restoration Program, the Resources Agency has undertaken an extensive public outreach effort throughout the environmental review process and in the development of the Preferred Alternative. Chapter 26 of the Draft PEIR, "Public Involvement, Consultation and Coordination" contains a discussion of this outreach effort. Due to the programmatic nature of the Draft PEIR, however, the analysis of most resources, including economic and social effects, was conducted at a programmatic level. As stated in Chapter 22 of the Draft PEIR, under the California CEQA Guidelines, economic or social information may be included in an Environmental Impact Report, or may be presented in whatever form the agency desires. Economic or social effects of a project shall not be treated as significant effects on the environment (CEQA Guidelines, section 15131). Additionally, as stated in Fish and Game Code Section 2081.8, the State shall not undertake the creation of opportunities for improved local economic conditions if they would constitute a project purpose.

SSA-30

Although not required under CEQA, the Draft PEIR addresses environmental justice in Chapter 22 "Economic and Social Effects." This environmental justice analysis was conducted at a programmatic level, consistent with the overall analysis in the Draft PEIR. Additionally, as described in Chapter 3 of the Draft PEIR, the alternatives are programmatic in nature and the final facilities locations have not been selected. Therefore, it would be premature to conduct a detailed environmental justice analysis. A more detailed environmental justice analysis would be appropriate during project-level analysis.

SSA-31

Federal Executive Order 12898 has no application in this context and CEQA has no specific comparable requirement. In accordance with State policy however, the Draft EIR addresses environmental justice in Chapter 22 "Economic and Social Effects." The Resources Agency has established a policy that the public, including minority and low income populations are not discriminated against, treated unfairly, or caused to experience disproportionately high and adverse ***human health or environmental effects*** from environmental decisions. . . ." (emphasis added). Further, the Resources Agency's policy requires that the fair treatment of people of all races, cultures and incomes shall be fully considered during the planning, decision-making, development and implementation of all Resources Agency programs, policies, and activities.

SSA (cont.)

SSA-32

The Draft PEIR includes a discussion of environmental justice in Chapter 22, "Economics and Social Effects." More specific consideration of environmental justice implications would be appropriate during future project-level analysis. The Draft PEIR also discusses the extensive outreach effort that the Resources Agency has undertaken to comply with CEQA and with State Environmental Justice Policy in Chapter 26, "Public Involvement, Consultation, and Coordination". See response to comment SSA-30.

SSA-33

As stated in Chapter 22 of the Draft PEIR, all of the alternatives, including the Preferred Alternative, could potentially result in increased fishing opportunities which would benefit local populations, especially in later phases, compared to the No Action Alternative and Existing Conditions. The actual presence and extent of these effects would need to be evaluated further in project-level analysis. All of the alternatives, including the Preferred Alternative, have the potential for other recreational opportunities, such as ecotourism, which could provide additional economic opportunities for communities surrounding the Salton Sea. Because these areas include minority and low-income populations, there is a potential for economic or social benefits to these populations.

SSA-34

No indirect impacts to the agricultural community due to changes in water distribution are expected to occur under any of the alternatives, including the Preferred Alternative. None of the alternatives are proposing changes in water management actions or water distribution within the IID or CVWD service areas. Additionally, the ability to use the Salton Sea for a repository of agricultural drainage was protected when President Calvin Coolidge in 1924 and 1928 ordered specific sections of land under the Salton Sea to be withdrawn from settlement, location, sale, or entry, and reserved for the purposes of creating a drainage reservoir. At this time there is no intent to change the Salton Sea as a repository for drainage water.

SSA-35

Efforts have been made to address these impacts in the Draft PEIR based upon available information. All alternatives have the potential to exacerbate air quality issues, including the generation of odors. Assuming the Legislature gives direction to move forward on implementation, it is anticipated that project-level analysis would be conducted to address specific impacts and identify possible mitigation measures needed to eliminate air quality impacts to the maximum extent feasible.

- Loss of tax-based funding for community services as a result of lost business in the recreational, agricultural, or other sectors along the Salton Sea, and losses in property values in the Salton Sea basin. An analysis of how each alternative would affect property values in the Salton Sea basin should be conducted and considered as part of the PEIR process.

SSA-36

(2) Economic Impacts.

SSA's Restoration Plan is designed to ensure that a restored Salton Sea meets the wildlife, water and air quality objectives of the state, but also provides a positive impact to local and regional economies. The Draft PEIR provides no comparative economic data or analysis regarding the proposed alternatives. Rather than the limited qualitative discussion presented in the Draft PEIR, SSA believes a full economic analysis is appropriate in this instance which should include, without limitation:

SSA-37

- Values of recreational use from fees, gas, food, lodging, and goods, including hunting, fishing, boating, camping, bird watching, hiking, and OHV uses, in addition to estimated values of recreation along the flyway from migratory species;
- Income generated from associated retail sales;
- Income generated from project construction (jobs and supplies);
- Income generated from project operations (jobs and supplies);
- Income generated from increased home construction (jobs and supplies);
- Income generated from service jobs and businesses associated with increased residential populations; and
- Income from increased taxes due to additional homes and businesses.

Restored natural values are also a significant factor. According to a recent study commissioned by SSA, a restored Salton Sea could generate $1 - $5 billion annually in non-market conservation benefits. Furthermore, the SSA Restoration Plan is the only alternative that provides for a full expansion of the geothermal energy field at the southern end of the Salton Sea, which would provide a valuable source of green energy in today's energy-thirsty market.

SSA-38

(F) Funding

SSA's Restoration Plan is the only alternative that provides any likelihood of receiving significant local funding. This is made possible because SSA's Plan is the only alternative supported by local agencies and the only alternative capable of generating large-scale

SSA (cont.)

SSA-36

Chapter 22 of the Draft PEIR includes an analysis of the economic and social effect of the alternatives. As discussed in Chapter 22 of the PEIR, it is the Resources Agency policy that the public, including minority and low income populations are not discriminated against, treated unfairly, or caused to experience disproportionately high and adverse human health or environmental effects from environmental decisions. The policy does not require an analysis of how each alternative would result in the loss of tax-based funding for community services or effects to property values in the Salton Sea basin.

SSA-37

Chapter 22 of the Draft PEIR includes an analysis of the economic and social effects of the alternatives. As stated in the Draft PEIR, under the CEQA Guidelines, economic or social information may be included in an Environmental Impact Report, or may be presented in whatever form the agency desires. Economic or social effects of a project shall not be treated as significant effects on the environment (CEQA Guidelines, section 15131). Additionally, as stated in Fish and Game Code Section 2081.8, the State shall not undertake the creation of opportunities for improved local economic conditions if they would constitute a project purpose. Future project-level analysis could include a more in-depth evaluation of economic and social effects.

As described in the program's implementing legislation, the preferred alternative must provide the maximum feasible attainment of the following objectives:

- 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;
- Elimination of air quality impacts from the restoration project; and
- Protection of water quality.

SSA-38

The State agrees that restored natural values are an important feature of any restoration plan. Additionally, Chapter 21 of the Draft PEIR includes analysis of the potential for loss of access to geothermal resources at the Salton Sea. As identified in Chapter 21, all of the alternatives could provide for expanded geothermal values and Next Steps were identified and would include participation of the geothermal industry. The Next Steps identified in Chapter 21 include measures such as corridors for geothermal facilities or use of future technologies that would reduce impacts of the energy resource facilities on wildlife. Additionally, as described in Chapter 3 of this Final PEIR, the Preferred Alternative includes an area designated for future geothermal development, and also includes Air Quality Management efforts for Exposed Playa in this geothermal development area.

development that makes local funding feasible.

It is estimated that improved conditions around the Salton Sea resulting from the implementation of the SSA Restoration Plan would result in the construction of 200,000 homes. That construction could generate new tax revenues specifically to address restoration efforts in amounts estimated to be $1.4 billion annually, which could to be used for operation and maintenance and/or to support $10 billion in revenue bonds for project financing.

A previous study by the Rose Institute estimated that additional revenue streams could generate $361 million in net present value.

(G) Aesthetic Impact

Among the most impressive features of the Salton Sea are its vistas. The massive and serene expanse of water against the desert and mountain backdrop provides dramatic visual values. Once again, SSA's Restoration Plan is the environmentally superior alternative in this regard. It maintains the largest portion of these aesthetic resources by retaining large expanses of water in proximity to inhabited communities. Under other alternatives, this important aspect of the Salton Sea would be forever lost. **SSA-39**

IV. Conclusion

Waters diverted from the Colorado River sustain communities throughout the Southwest. The Salton Sea is threatened with collapse. A strong, comprehensive, and flexible plan is needed to forestall that collapse, and its deleterious consequences for the surrounding natural and human communities.

SSA's augmented Restoration Plan provides a successful, sustainable, and environmentally superior roadmap to restore the Salton Sea. It has been developed over the last 10 years with extensive stakeholder input and scientific support. It enjoys the united support of community residents, the private sector, and local governments. **SSA-40**

For these and other reasons set forth in SSA's detailed comments to the Draft PEIR, the Authority respectfully requests the Draft PEIR be amended in to incorporate the new and corrected information included in these comments regarding augmentations to the Authority's Restoration Plan, efficacy of the Authority's proposed mitigation, and the full range of benefits of a restored Salton Sea. **SSA-41**

SSA (cont.)

SSA-39

Aesthetic and visual resources impacts were described in Chapter 18 of the Draft PEIR. As described in that chapter, all of the alternatives have the potential to substantially degrade visual character, quality, or scenic vistas around the Salton Sea and result in potentially significant impacts to aesthetics and visual resources. While Alternative 7 would result in a large open water area that would provide water in proximity to inhabited areas in the northern portion of the Salton Sea, a variety of other considerations, such as the size and location of facilities (including the Barrier to form the Recreational Saltwater Lake) and proximity to water in the southern portion of the Salton Sea, need to be considered in an evaluation of impacts to aesthetic and visual resources. CEQA does not require a prioritization or determination of the most or least desirable alternative from an aesthetics and visual resources standpoint. The environmentally superior alternative and process for selecting this alternative is described in Chapter 3 of the Draft PEIR.

SSA-40

See response to comments SSA-2, SSA-1, and SSA-9.

SSA-41

See response to comment SSA-1.

Salton Sea Authority Comments on the Salton Sea Ecosystem Restoration PEIR

General Comments on the PEIR

G-1. Precipitation-Related Climate Change Assumptions Used in PEIR. The PEIR uses a report by Cayan *et al.* (2006) (http://www.energy.ca.gov/2005publications/CEC-500-2005-103/CEC-500-2005-103-SD.PDF) as the basis for assumptions regarding future evaporation and precipitation changes resulting from climate change from present day through 2078. The resultant assumptions are that temperatures and evaporation rates will increase, while precipitation in the Salton Sea basin will not change substantially. The use of the Cayan *et al* (2006) report is inappropriate, unscientific, and unacceptable in forming this assumption for the following reasons:

- The Cayan *et al* (2006) report was a California Energy Commission (CEC) "Staff Report" and has not even been approved by the CEC. The report contains the following disclaimer on the cover "*This paper was prepared as the result of work by a member of the staff of the California Energy Commission. It does not necessarily represent the views of the Energy Commission, its employees, or the State of California. The Energy Commission, the State of California, its employees, contractors and subcontractors make no warrant, express or implied, and assume no legal liability for the information in this paper; nor does any party represent that the uses of this information will not infringe upon privately owned rights. This paper has not been approved or disapproved by the California Energy Commission nor has the California Energy Commission passed upon the accuracy or adequacy of the information in this paper.*"
- The Cayan *et al* (2006) report was a literature review of pre-existing research and modeling, and does not contain any primary research.
- The Cayan *et al* (2006) report did not undergo peer review in the scientific community; and
- The Cayan *et al* (2006) report addresses climate changes and precipitation changes in California as a whole, and does not discuss the Salton Sea basin specifically. Indeed, the following words are not even present anywhere within the Cayan report: "*Salton Sea*", "*Southeastern California*", "*Riverside*", "*Imperial*". The Colorado and Mojave deserts are referenced only once. California is a large state with multiple climactic regions, each of which with the potential to be affected uniquely in relation to the others.

The U.S. Global Change Research Program (www.usgcrp.gov) has a page dedicated to climate change in California (http://www.usgcrp.gov/usgcrp/nacc/california.htm). This page does not reference the Cayan *et al* (2006) report. Rather, this page highlights the work done in year 2000 and heralds this work as the most recent, scientifically valid research to date. The most recent report is dated September 2002 and is entitled "*Preparing for a Changing Climate, The Potential Consequences of Climate Variability and Change: A Report of the California Regional Assessment Group, for the U.S. Global Change Research Program.*" This document is available at http://www.ncgia.ucsb.edu/pubs/CA_Report.pdf. An overview of this report is included here as Attachment 1. The PEIR discussion on page H2-72 practically tosses this research aside with the comment: "*The more recent projections were developed with improved versions of the same models used to make the prior assessments, as well as United States and Japanese models not available previously, and appear to have superseded the older work.*" The "*more recent projections*" referenced here are not actually identified, and the statement "*appear to have superseded the older work*" is nothing more than an interpretation of the Cayan *et al* (2006) report, which, as stated above, has not been approved by the California Energy Commission, nor has it undergone scientific peer review.

The Cayan *et al* (2006) report concludes that on a statewide basis, precipitation is not projected to change significantly by 2100. This conclusion is based on projects of increased precipitation in some parts of California, and decreases in other parts of California. The Cayan *et al* (2006) report sums these results together resulting in no significant change in precipitation on a state-wide basis. DWR failed to separate projections in changes in precipitation for the Salton Sea Basin, from averaged-out projections for California has a whole.

1

SSA-42

SSA (cont.)

SSA-42

The future climate scenarios included in the Draft PEIR are consistent with those utilized in the Climate Action Team Report by the California Environmental Protection Agency (CalEPA, 2006) and cited in the Appendix H-2 of the Draft PEIR. The reference to Cayan et al 2006 is provided to describe the general state of scientific understanding of potential future climate change. This information, however, is consistent with that included in the Climate Action Team Report which indicates a strong trend toward increasing temperature, but relatively little change in total precipitation. As described in Appendix H-2 of the Draft PEIR, four climate projections from emission-model scenarios utilized in the Climate Action Team Report were evaluated at grid locations centered near the Salton Sea. These results were consistent with that described above, indicating relatively little change, or slight decreases, in total precipitation. These results are also consistent with findings by the Intergovernmental Panel on Climate Change Third Assessment Report (IPCC, 2001) and recently released Fourth Assessment Report (IPCC, 2007). The Third Assessment Report is cited in the same section of the Draft PEIR, while the Fourth Assessment Report was not yet published by the time of the preparation of the Draft PEIR.

The 2002 US Global Change Research Program Report summarizes two separate climate projection models for the US through year 2100. Both of these models show precipitation and soil moisture projection maps for the entire nation. While these models conflict in their projections for some areas of the country, projections for the Salton Sea Basin are consistent between them. Both models project increases in precipitation rates and soil moisture levels within the Salton Sea Basin of 100% or greater by the year 2100 (See an overview of this report, included here as Attachment 1).

This increase in precipitation should be carried forward to result in approximate doubling of inflows from the following sources:

- Local Watershed;
- Groundwater; and
- Precipitation directly onto the Salton Sea.

Increases in inflows would also be realized from the following sources.

- Mexico;
- Imperial Valley; and
- Coachella Valley.

The PEIR analysis projects approximately 100,000 acre-feet per year in additional evaporative losses due to increases in temperatures resulting from climate change. The adoption of the Cayan *et al* (2006) report as a foundation for assumptions regarding future precipitation levels is completely inappropriate for a regionally distinct project such as the Salton Sea Ecosystem Restoration Project, unscientific since it incorporates no new or regional-specific primary research, and unacceptable because it completely discredits the work considered to be cutting edge and current by the US Global Change Research Program and the scientific community.

The Salton Sea Authority maintains that the inflow assumptions used in the PEIR are flawed and grossly underestimated. The Authority is deeply concerned about the integrity of the entire PEIR as a fair, unbiased evaluation of alternatives if it utilized a staff report by a state agency that does not even stand behind that report. The PEIR should be using only valid, peer reviewed literature that is accepted by the scientific community at large.

The Salton Sea Authority reiterates the concern that by selecting an Alternative from the PEIR, the Secretary for Resources will choose a project that is designed for inflows much lower than will actually exist. Such a project would result in excess water flowing to the brine sink, essentially going to waste, and opening up the opportunity for non-Imperial/Coachella Valley water interests to argue that the Sea has more water than it needs, justifying more out-of-valley water transfers.

SSA-42 cont.

G-2. Inflow Assumptions - The PEIR Uses Climate Change-Related Evaporation Rate Projections but Neglects to Use Precipitation Projections. Page 5-33 of the PEIR describes how the 717,000 AFY inflow projection was calculated. The PEIR shows that inflow projections were based on historic data (1925 – 1999) using the Monte Carlo analysis to generate several possible future inflow scenarios. Climate change was not used in inflow projections. The PEIR continues to explain that climate change projection data (increased temperatures) were used to calculate future evaporation rates. The projected 2078 evaporation rates are elevated from present rates, and are then applied to the Salton Sea at its *current* elevation and then calculated to result in a loss of 100,000 additional AFY from the Sea. The 100,000 AFY water loss from evaporation is *then* reported as an "*equivalent inflow reduction*", and this "*equivalent inflow reduction*" was then seemingly used to determine the 717,000 AFY figure for 2078 inflows.

Therefore, it seems as though the 717,000 AFY figure is not actually the projected inflow; rather, it is "*inflow*" minus "*climate-change-induced evaporation*". One can assume that the PEIR actually calculated an extra 100,000 AFY in inflow, making the total projected inflow 818,000 AFY, not so different from the Salton Sea Authority's inflow projection. The PEIR then subtracts 100,000 AFY to come up with 717,000 AFY.

SSA-43

SSA (cont.)

SSA-43

The development of future inflow projections for the Salton Sea considered the most recent scientific information summarized in the Climate Action Team Report (CalEPA, 2006) and other sources. The scenarios described in this Climate Action Team Report and supported by the Intergovernmental Panel on Climate Change assessment reports indicate either little change in total precipitation or little scientific consensus regarding the direction of changes in precipitation in the Salton Sea region. Due to the lack of clear trends in projections of future precipitation changes, no changes due to possible changes in precipitation were included in the future inflow estimates. At the Salton Sea, annual evaporation is nearly 30 times that of annual precipitation. Thus, in performing an uncertainty analysis evaporation was determined to be the parameter of greatest significance to the water budget. As described in Appendix H-2 of the Draft PEIR, the possible change in evaporation was assessed under the No Action Alternative-Variability Conditions by adjusting the rate of evaporation. This is a unit rate of evaporation and the volumetric impact depends on the water surface area of the particular alternative. The term "equivalent inflow reduction" was used to assist the reader in understanding the relative water budget effect if the changes in evaporation occurred under the current sea configuration. Inflows were not adjusted for possible evaporation rate increases.

This approach is unscientific and unacceptable for the following reasons:

1. This is an uneven-handed application of climate data. It takes temperature increases into account, without taking the precipitation increases that are clearly projected in scientific literature. Please refer back to the previous comment (G-1) regarding the inappropriate use of the Cayan *et al* (2006) report. The SSA requests that the inflow assumptions be recalculated with the projected 100% increase in precipitation in the Salton Sea Basin, alongside with the temperature and evaporation rate increases already included in the analysis. **SSA-44**
2. It is unscientific to calculate evaporative losses to the Sea from the Sea's *present* elevation. Smaller evaporative losses would occur for those project designs resulting in smaller water surface areas. For example, the surface area of Alternative 1 has only approximately 10% of the sea's current surface area and would therefore only experience 10% of the calculated 100,000 AFY in evaporation. Once again, the PEIR lacks integrity in its scientific approach, and promotes the selection of a project design that will minimize the size of the final sea, will result in excess water flowing to the selected project, and will open up the sea to out-of-valley water transfers. The SSA requests that calculations be re-run on an alternative-specific basis regarding evaporative water losses so that maximum feasible habitat, water quality, and air quality mitigation can be effected from the volumes of water that are projected to be available for use. **SSA-45**

G-3. Flexibility in Alternative 7 to be Adjusted to Adapt to the Inflow Assumptions Proposed by DWR. The SSA reiterates its position that future flows will be 800,000 AFY or greater, and believes that the State's assumption of 717,000 AFY is overly conservative and based on inappropriate, unscientific, and unacceptable climate assumptions (see earlier comments G-1 and G-2). The SSA is concerned that by choosing a project alternative that is designed to function at lower flows than would actually be present, this would open up the Valley's water rights to competing interests. For example, if the chosen alternative is designed for 717,000 AFY, but is receiving 800,000 AFY, competing water users could make the argument that the Sea has excess water, and use this as justification for taking more water out of the Valley. If this were to occur, this would be an injustice to stakeholders at the Sea who could have benefited from larger areas of open water or deep marine sea had the project been designed to accommodate those higher flows. If, however, it is determined that 717,000 AFY is the flow rate to which the project is to be designed, the SSA Plan is able to accommodate this by moving the mid-sea barrier northward. **SSA-46** **SSA-47** **SSA-48**

G-4. Socioeconomics, Impacts on Children, Environmental Justice. While CEQA does not require consideration of socioeconomic impacts, impacts on children, or environmental justice (EJ) issues, such issues would be addressed in any later programmatic or project-specific EIS/EIR (as NEPA does require such analysis) and would be a part of the decision making process in choosing a preferred alternative under NEPA. Given the likely importance of these issues later in the process, the SSA is concerned that not considering these issues at this time may result in the Secretary for Resources selecting an alternative that disproportionately affects children and underprivileged communities surrounding the Sea. The SSA strongly encourages DWR to bring to the Secretary's attention, issues of socioeconomics, impacts on children and environmental justice for him or her to consider in his or her selection of a preferred alternative. This is doubly encouraged given that the PEIR does include financial estimates of the direct costs of each alternative; it should also therefore allow for indirect impacts on the local economy and population. **SSA-49**

In particular, the PEIR--or the decision-making process--should consider EJ. Many of the communities surrounding the Salton Sea are or contain low-income or minority populations (African-American, Native American, and Hispanic), which are particularly called out under EO 12898, Environmental Justice, for analysis of disproportionate environmental impacts on those communities. Environmental Justice analysis would include identifying census tracts or broader geographic areas with substantial proportions of low-income or minority residents, then

SSA (cont.)

SSA-44

The development of future inflow projection for the Salton Sea considered the most recent scientific information summarized in the Climate Action Team Report (CalEPA, 2006) and other sources. The scenarios described in that report and supported by the Intergovernmental Panel on Climate Change assessment reports indicate either little change in total precipitation or little scientific consensus regarding the direction of changes in precipitation in the Salton Sea region. Due to the lack of clear trends in projections of future precipitation changes, no changes due to possible changes in precipitation were included in the future inflow estimates. Precipitation increases of the magnitude suggested are not projected for any region of the globe in the most recent Intergovernmental Panel on Climate Change report (IPCC, 2007) and are not supported by more recent science.

SSA-45

As described in Appendix H-2 of the Draft PEIR, the possible change in evaporation was assessed under the No Action Alternative-Variability Conditions by adjusting the rate of evaporation. This is a unit rate of evaporation and the volumetric impact depends on the water surface area of the particular alternative. Model calculations were performed on an alternative-specific basis. The term "equivalent inflow reduction" was used to assist the reader in understanding the relative water budget effect if the changes in evaporation occurred under the current sea configuration. Inflows were not adjusted for possible evaporation rate increases.

SSA-46

See response to comment SSA-45.

SSA-47

See response to comment SSA-45.

SSA-48

See response to comment SSA-25. The alternatives in the Draft PEIR are based on what reasonably might occur in the absence of constraints on the amount of inflow to the Salton Sea over the 75-year planning horizon. The Draft PEIR does not make any assumptions related to potential new water transfers. A specific level of hydrologic risk, related to the potential investment and consequences, was assessed by the California Resources Agency in deciding upon placement of major infrastructure elements of most alternatives. As suggested by the commenter, greater adaptability in an alternative would reduce the hydrologic risk.

determining whether any of the direct or indirect impacts of the project might affect those communities to a greater effect than they would non-EJ communities.

Direct or indirect impacts that could affect EJ communities in the project area could include:

- Access to recreational resources, particularly shoreline activities, as the shoreline of the Sea changes in various ways under the proposed alternatives;
- Indirect economic impacts from loss of business/employment associated with changes in recreational uses along the Sea;
- Indirect economic impacts associated with changes in agricultural practices in the Imperial Valley resulting from changes in water distribution that might result from implementation of the project, thus leading to job losses or other economic changes;
- Indirect environmental impacts associated with deterioration of air quality including increased odors; and
- Loss of tax-based funding for community services as a result of lost business in the recreational, agricultural, or other sectors along the Sea, and losses in property values in the Salton Sea basin. An analysis of how each alternative would affect property values in the Salton Sea basin should be conducted and considered in the Secretary's decision.

G-5. Economic Effects. The PEIR contains no data on economic impacts that allow for a comparison of the alternatives. The only analysis is a qualitative analysis, and it is cursory at best. A full economic analysis should be conducted and include:

- Value of recreation use from fees, gas, food, lodging, and goods. Also include estimated value of recreation along the flyway from migratory species. Recreation used should include hunting, fishing, camping, bird watching, hiking, and OHV use.
- Income generated from associated retail sales.
- Income generated from construction of projects (jobs and supplies)
- Income generated from operation of the project (jobs and supplies)
- Income generated from increased home construction (jobs and supplies)
- Income generated from service jobs and businesses associated with increased residential
- Income from increased taxes due to homes and businesses

For example it is expected that the improved conditions at the Salton Sea as a result of the SSA Plan (Alternative 7) would result in the construction of an estimated 100,000 homes. The estimated taxes generated by 1,000 homes is $2.8 million annually (Del Rio Advisors Memo, January 11, 2007 – Attachment 2). If 2,000 homes were constructed over the 50-yr life of the project (equal to 100,000 homes) the taxes generated during that 50-yr period would be $7.3 billion at today's dollars.

The Secretary for Resources should be presented with the results of such socioeconomic analyses in his or her decision-making process; otherwise, the Secretary may unknowingly choose a preferred alternative that does not maximize the potential socioeconomic benefits available under other alternatives.

G-6. Potential Non-Market Benefits Provided By the Salton Sea. The Salton Sea Authority has commissioned a report by K2 Economics on the potential non-market benefits of the Salton Sea, to demonstrate the value of maintaining as much of the present-day sea as possible, and to highlight the importance of a large water body, open for recreational uses. The Draft report, dated January 10, 2007 and included here as Attachment 3, highlights that federal agencies have been mandated under executive orders (e.g., EO 12866 under President Clinton) to choose those alternatives that maximize net benefits (i.e., the difference between total benefits and total costs). The report further emphasizes that even when much of the preservation benefits consists of non-market value, many state and federal agencies have not only acknowledged such benefits, but also quantified them for guidance in their resource allocation decisions. The report provides some

SSA-49 cont.

SSA-50

SSA-51

SSA (cont.)

SSA-49

See response to comment SSA-30. The costs of the alternatives, including construction and operations and maintenance costs, were included in Chapter 3 of the Draft PEIR and in more detail in Appendix H-7.

SSA-50

See response to comments SSA-32, SSA-33, SSA-34, SSA-35, and SSA-36.

SSA-51

See response to comments SSA-37 and SSA-38. The Secretary took into consideration a variety of information sources and input from stakeholders, in developing his recommendation of the Preferred Alternative.

Additionally, as stated in Fish and Game Code Section 2081.8, the State shall not undertake the creation of opportunities for improved local economic conditions if they would constitute a project purpose.

preliminary estimates that are suggestive of the potential value associated with preserving the Salton Sea.

As detailed in this K2 Economics report, the National Resource Council (2004; Executive Summary), an advisory arm of the federal government, argued recently that "*assigning a dollar figure*" to non-market ecosystem services "*…are a must to accurately weight the trade-offs among environmental policy options.*" Failure to include a measure of the value of ecosystem services in benefit-cost calculations will implicitly assign them a value of zero, which we know is incorrect as evidenced by the body of literature that has estimated the monetary value of similar services.

The K2 Economics report provides an estimated range of annual benefits from the Sea using the "value transfer" method. This method involves deriving updated estimates of habitat or species preservation values from previous research that has performed a primary valuation study or meta-analysis, and then transferring these values to the Salton Sea. To derive these updated estimates, K2 Economics undertook a thorough search of the environmental and natural resource economics literature on ecosystem service valuation, focusing on the services provided by the Sea that tend to benefit geographically dispersed populations rather than just the local population. The initial searching and screening of these sources and topics produced around 70 studies. Subsequent screenings narrowed the list to 23 studies of which 20 included at least one value with potential relevance for the Salton Sea.

Of these 23 studies, K2 Economics determined that those addressing wetlands and wildlife in the San Joaquin Valley (SJV) and those addressing the Mono Lake ecosystem are most relevant and provide the most useful benefits estimates for the Salton Sea. The K2 Economics provides a conservative order-of-magnitude estimate of the non-market benefits provided to the residents of California by a restored and preserved Salton Sea. This estimated is reported to be in the range of $1-$5 billion annually. This estimated range includes both use and non-use value, but probably mostly non-use value.

The Salton Sea Authority requests that this information be made known and available to the Secretary for Resources in his or her selection of a preferred design for the restoration of the Salton Sea. The subsequent project-level environmental analysis will be a joint NEPA/CEQA effort involving federal agencies. As stated earlier in this comment, federal agencies are considering non-market values in ecosystem restoration and protection projects and it would be prudent for the Secretary to consider this during the design selection process. **SSA-52**

G-7. The Potential for Alternative 7 to Self-Fund Operation and Maintenance. The PEIR does not address differences in the design alternatives with regard to their ability to generate local monies that can self-fund the ongoing operation and maintenance of the selected alternative project. The Salton Sea Authority hired Del Rio Advisors, LLC, to investigate local funding alternatives. The results are summarized in a report by Del Rio Advisors, LLC, dated January 11, 2007, and included here as Attachment 2. The Del Rio report estimates that a restored Salton Sea could promote the development of 100,000 to 250,000 residential units in the vicinity, and explains how the Salton Sea Authority could establish both a Community Facilities District (CFD) and an Infrastructure Financing District (IFD) to capture monies from this development. **SSA-53**

CFD. Under the Mello-Roos Community Facilities District Act of 1982 being Government Code Section 53311 et seq., (the "Mello-Roos Act"), a local agency may levy a special tax to finance certain services and facilities in accordance with the requirements set forth in the Mello-Roos Act. A joint powers authority is considered a "*local agency*" under the Mello-Roos Act and has all of the authority to accomplish the purposes of the Mello-Roos Act. Government Code §53317.

IFD. The Del Rio memo refers to the special legislation that authorizes the Salton Sea Authority to form an infrastructure financing district for the restoration of the Salton Sea

SSA (cont.)

SSA-52

We appreciate you providing the information resulting from the K2 Economics study. The State recognizes the substantial ecosystem benefits that would result from a restoration program at the Salton Sea. While we recognize the Federal Executive Order 12866, it has no application in this context and CEQA does not require a cost-benefit analysis. The Secretary has considered a variety of information sources and input from stakeholders, in developing his recommendation of the Preferred Alternative.

SSA-53

We appreciate you providing this information. However, a discussion of potential funding sources, including self-funding, is outside of the scope of the Draft PEIR. A Funding Plan to implement the Preferred Alternative has been prepared, as required by Fish and Game Code Section 2081.7, The Funding Plan, which is being distributed separately from this Final PEIR, identifies local funding mechanisms such as establishment of a Community Facilities District and an Infrastructure Financing District, as proposed by the SSA. As discussed in the Chapter 22, "Economic and Social Effects," of the Draft PEIR, under the CEQA Guidelines, economic or social information may be included in an Environmental Impact Report, or may be presented in whatever form the agency desires. Economic or social effects of a project shall not be treated as significant effects on the environment (CEQA Guidelines, section 15131).

(Government Code § 53395.9). The section authorizes an IFD "*for the purpose of funding the construction of, and purchasing electrical power for, projects for the reclamation and environmental restoration of the Salton Sea*". The grant of authority is broad enough to encompass the construction of currently envisioned structures for the reclamation of the Salton Sea.

Both of these districts present local funding mechanisms that would minimize state and federal monies required to fund the selected alternative. The Del Rio report (Attachment 2) includes financial capture projections for two scenarios: the construction of 100,000 homes, and the construction of 200,000 homes. The PEIR should include a comparison of the potential for each of the alternatives to self-fund, acknowledging that those alternatives that preserve existing waterfronts to the maximum degree feasible, and that create an environment that would attract economic development, would be better suited to both generate and capture local revenues. The Salton Sea Authority believes that Alternative 7 retains the greatest economic and recreational value and would therefore be the alternative most capable of self-funding through the mechanisms mentioned above, and detailed in Attachment 2. **SSA-54**

Additionally, the Rose Institute of State and Local Government, part of Claremont McKenna College, prepared a Report to the Salton Sea Authority Economic Development Task Force, an advisory body appointed by the Salton Sea Authority, on January 7, 1999. This report is attached as Attachment 4. The report contains two elements: a list of the potential revenue sources that could be used to help finance a proposed clean-up of the Salton Sea, and a listing of the government entities involved in similar large, complex, ecologically challenging, water related projects. Additionally, some analysis of overall governance entity structure is provided. The report identifies the following potential revenue sources: **SSA-55**

- Sales and Use Taxes
- Fertilizer/Pesticide Taxes
- Green Product Taxes
- Hotel Taxes
- Marine and Aviation Taxes
- Real Estate Transfer Taxes
- Rental Car Taxes
- Bond Issuance Fees
- Licensing and Recreational Fees
- Local Water/Wastewater Utility User Fees
- Permitting Fees
- Product Registration Fees
- State Public Water Supply Withdrawal Fees
- Special Assessments
- Effluent Charges
- Exactions
- Impact Fees
- Severance Taxes
- Department of Housing and Urban Development Community Development Block Grants (CDBG) Economic Initiative Grants
- Economic Development Administration (EDA) Public Works & Infrastructure Development Grants
- EDA Special Economic Development & Adjustment Assistance Grants
- Environmental Protection Agency (EPA) Program Grants
- EPA – Performance Partnership Grants (PPGs)
- Environmental Technology Initiative
- Foundation and Corporate Giving
- Rural Business – Cooperative Service Business Enterprise Grants
- Rural Business – Cooperative Service Economic Development Grants
- Rural Utilities Service Water and Waste Disposal Systems Grants
- Affinity Merchandise

SSA (cont.)

SSA-54

See response to comment SSA-53.

SSA-55

Thank you for the information and a copy of the report. This information was considered in development of the Funding Plan.

- Contributions of Land
- Individual and Corporate Donations
- Nonprofit Organizations
- Certificates of Participation
- Double-Barrel Bonds
- General Obligation Bonds
- Private Activity Bonds
- Revenue Bonds
- Special Assessment Bond
- Revolving Fund Revenue Bonds
- Tax Increment Bonds
- North American Development Bank
- Rural Housing Service – Community Facilities Loans

G-8. Selenium Levels at the Saline Habitat Complex (SHC) Proposed for the North Sea. Alternative 7 includes a 1,600-acre SHC at the mouth of the Whitewater River. Concerns have been expressed by the California Department of Fish and Game regarding high selenium levels in the sediments at this location, and that sediment-bound selenium would become salinated and thus bioavailable to benthic organisms, allowing selenium an entry-route into the food chain. A close examination of the selenium levels found within this proposed area show that only one sample location exists within this area, showing selenium levels from 0-15 cm depth to be 0.580 mg/kg dry weight (see Figure 1, below). This selenium level is within the range of levels found in the south end of the sea, in areas proposed for SHC in other alternatives. For example, Alternatives 1, 2, 4, 5, and 6 include SHC or SHC-like lakes over one sample location with a selenium result as high as 0.870 mg/kg dry weight. The selenium data map shows that local variations are substantial, with selenium levels of greater than 4.100 mg/kg showing up only one mile away from selenium levels of 0.710 (in the north sea, to the east of the proposed SHC). The SSA feels that without additional testing of the Whitewater delta area, that ruling out this area for a SHC is not justified by the limited and unreliable data available.

SSA-56

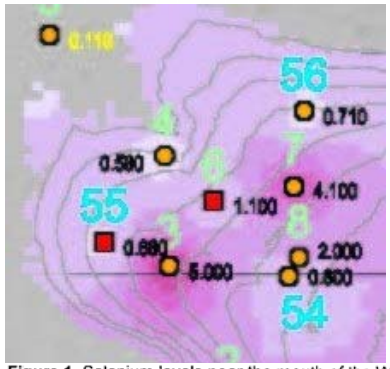

Figure 1. Selenium levels near the mouth of the Whitewater River.

G-9. Water Temperature Impacts of Eliminating Deep Waters. A flaw in the PEIR results in favoring alternatives that offer more shallow water habitat over marine habitat. The flaw lies in the fact that although modeling was performed for several water quality parameters, there was no conclusion drawn about the effects of increasing the surface to volume ratio on water

SSA-57

SSA (cont.)

SSA-56

The risk modeling for each habitat in each alternative was based on the same measured and estimated selenium concentrations for the sea bottom sediment for areas within the polygon for that particular habitat. As a consequence, uncertainties associated with the initial sediment dataset should contribute equally to the evaluation of each alternative. The primary difference would be that specific data (and the estimated spatial distribution of selenium concentrations) integrated into the evaluation of a given alternative are a function of how the footprint of habitats as outlined by the design for the alternative overlays on the measured and estimated sediment selenium concentrations. Appendix F of the Draft PEIR describes the methods used to estimate sediment selenium concentrations from the available data, which are considered adequate for the programmatic-level assessment but do not describe localized conditions in detail. Further monitoring and evaluation would be appropriate to conduct during project-level analysis.

SSA-57

The water temperature regimes for shallow, deep and intermediate aquatic components were modeled as described in Appendix D and summarized in Table D-5 of the Draft PEIR. The annual maximum water column temperature under recent conditions is 32.3 °C (90.14 °F). The same metric for shallow water habitats, according to the water quality modeling presented in Appendix D, is 32.6 °C (90.68 °F) and 33.5 °C (92.30 °F) for Saline Habitat Complex and Concentric Rings components, respectively. This does not represent a significant increase in the annual maximum water temperatures. Model results indicate that the larger bodies of water mediate changes in water temperature, as expected due to the effects of water mass. The Marine Seas retain more heat than the shallower water bodies, such as Saline Habitat Complex and Concentric Lakes and Rings, during the cooler portion of the year. However, all water bodies warm to similar levels at the surface during the summer due to reaching equilibrium conditions with ambient air temperatures.

Avian botulism is not a contagious disease, and is not caused by crowding of birds. Avian botulism is caused by individual birds eating contaminated food items. At the Salton Sea, avian botulism outbreaks have taken place when high numbers of moribund fish, containing botulism toxins, have become available to fish-eating birds. Exposure to, and the opportunity for ingesting, these fish takes place in both shallow and deep water habitats of the Sea. Secondary outbreaks of avian botulism can occur after infected birds die, and their carcasses provide an additional source of toxins, via fly larvae. The likelihood of birds succumbing to this secondary source is a function of the number of carcasses that birds have access to, not temperatures or bird densities.

temperature. Alternatives that propose to create large areas of shallow habitat (<20' depth) will greatly increase the area exposed to solar radiation compared to the volume of water available to absorb that radiation. The inevitable result of this process will be greatly increased temperatures in constructed cells. Avian botulism, which has caused massive die-offs of migratory birds at Salton Sea in the past, incubates best at higher water temperatures, and is spread most effectively in areas where birds are crowded together. It appears that both of these conditions would be most likely under Alternatives 1, 2, and 4, and least likely under Alternative 7, which proposes the greatest extent of deep marine sea and therefore the lowest surface to volume ratio. Offering the greatest extent of deep marine sea also allows species such as pelicans and grebes to spread out into lower concentrations, thereby lowering the risk of spread of avian botulism compared to alternatives that stress higher SHC.

SSA-57 cont.

G-10. Decreased Dissolved Oxygen Levels and Decreased Productivity in Shallow Waters. In the water quality section of the PEIR, it is stated that increased water temperature is associated with lower levels of dissolved oxygen (DO). Lower levels of DO lead to decreased productivity throughout the water column. Since it appears that temperatures are most likely to be higher in the SHCs than in the marine sea areas, it is likely that the lowest levels of DO would occur there. Although some deeper habitat would be created by excavating large holes in the SHCs, these do not appear to be extensive enough to offset temperature increases that would occur as a result of increasing the surface to volume ratio. Alternatives that offer greater amounts of marine sea would be less subject to warming effects, thus less susceptible to reduced DO levels associated with warming effects. Alternative 7 would be the least susceptible to decreased DO levels and productivity due to warming effects.

SSA-58

G-11. Inadequacy of Deep Holes in SHC for Fish Refugia. The proposal to provide fish refugia and habitat diversity by excavating deeper holes in the SHCs is flawed. Even if such holes were large enough to absorb fish populations without overcrowding, it is unlikely that such excavated areas would offer the complexity or structural diversity that would be required to support fish populations throughout all phases of their lifecycle, and therefore, they would be unable to sustain fish populations in the long-term. Such habitat already exists or would exist under alternatives that offer substantial marine sea habitat, of which Alternative 7 would offer the most.

SSA-59

G-12. Inefficacy of Many Alternatives at Restoring Historic Sport Fish Levels. The alternatives that don't include a deep marine sea don't result in restoration of historic levels of sport fish that is requested by the driving legislation for the Salton Sea Ecosystem Restoration Project. Alternative 7 is superior in its restoration of sport fish.

SSA-60

G-13. Infeasibility of Drip Irrigation in Air Quality Management. The use of buried drip irrigation pipelines for Air Quality Management proposed in the PEIR is not technically feasible. Local SSA experience with the enhanced evaporation project at the Salton Sea Test Base has shown that pumping Salton Sea water through 8-inch diameter HDPE results in clogging with gypsum after only 3 to 4 weeks. Pile worms and barnacles further exacerbate the clogging. Even if straight river water were pumped through, as proposed by the other alternatives, the suspended silt and hardness would build up and clog the small irrigation lines in a short period of time.

SSA-61

G-14. Impacts to the Salton Sea Recreation Area State Park. Alternative 7 would preserve more waterfront at the Salton Sea State Recreation Area than would any other alternative. Alternatives 1, 2, 4 and 8 would leave exposed playa at the existing waterfront, Alternative 3 would leave only a narrow channel of water, and alternatives 5 and 6 would leave only partial waterfront to the State Park. The impact to this State park should be considered under impacts to existing recreational resources. Alternative 7 preserves more of the existing recreational resources than any other alternative.

SSA-62

8

SSA (cont.)

SSA-58

Less dissolved oxygen is held in solution at saturation as water temperatures increase. A water body at a higher water temperature does not necessarily have lower dissolved oxygen concentrations than a cooler water body, but is dependent on other factors including wind mixing, photosynthesis, respiration, and organic decomposition. As long as dissolved oxygen levels are sufficient to meet metabolic requirements, a warmer water body would be more productive than a cooler water body due to higher metabolic rates at higher temperatures. The shallower water bodies (Saline Habitat Complex) are expected to be extremely productive and produce supersaturated conditions during the daytime due to photosynthesis, but algal respiration at night would decrease dissolved oxygen levels to below saturation. The deep Marine Seas are expected to be less productive, and retain greater oxygen saturation during the night due to lower levels of algal respiration. However, the larger water mass associated with the Marine Seas also results in thermal stratification. The deeper waters of the Marine Seas become anoxic (lose all oxygen) due to organic decomposition in the sediments, and form significant amounts of hydrogen sulfide and ammonia. Upon mixing of the Marine Sea in the late fall, the high concentrations of hydrogen sulfide and ammonia can strip oxygen from the entire water column, leading to massive fish kills from anoxia. The model indicates that only Alternative 8 would maintain dissolved oxygen in the surface waters due to greater wind mixing of oxygen into the water column in this configuration.

SSA-59

Fish vary in their need for physical complexity and structural diversity in the aquatic environment. The incorporation of deep, excavated areas within the Saline Habitat Complex cells is intended to increase habitat complexity and improve the suitability of the created habitat for fish. The Draft PEIR acknowledges the uncertainty associated with habitat creation and encourages the development of an adaptive management program that tests and evaluates these designs during project-level analysis. Construction of Early Start Habitat would provide the opportunity to test the function of the proposed design of the Saline Habitat Complex cells intended to support fish. The results would guide design of Saline Habitat Complex, and the future selection of candidate fish species for introduction.

As described in Appendix H-1 of the Draft PEIR, several species besides the Mozambique hybrid tilapia may be considered for introduction to complement the fishery as part of adaptive management of the future fishery.

SSA (cont.)

SSA-60

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: (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 projects. (3) Protection of water quality." All of the alternatives meet the legislative objectives to varying degrees. The Salton Sea Restoration Act and related legislation do not specifically refer to sport fish.

SSA-61

Air quality management can be achieved with or without drip irrigation. Drip has shown some advantages on the Owens Lake playa, and clogging has been avoided by the inclusion of facilities such as those described in the Draft PEIR. Ideally, multiple methods of irrigation and air quality management would be included in the air quality research and development program, and the most cost-effective and water efficient methods with adequate control efficiencies would be employed.

SSA-62

In the No Action Alternative, the impacts to the Salton Sea State Recreational Area are described and subsequently referenced in Alternative 1, 2, 3, 4, 5, 6, 7, and 8. Alternatives 3 and 4 would actually provide more shoreline access to all of State Parks Recreational Area than Alternative 7, as would the Preferred Alternative described in Chapter 3 of this Final PEIR.

G-15. A deep north sea is expected to decrease or eliminate dramatic turnover events. Dr. Stuart Hurlbert, an ecology professor at San Diego State University and a recognized expert on the Salton Sea, has written a letter challenging the PEIR's assumption that a North Sea would have to have a reduced depth in order to prevent end-of-summer turnover events. Dr. Hurlbert challenges DWR's assertion in the Draft PEIR that the North Sea proposed under Alternative 7 would have a reduced fetch, which would result in no summer full turnover events, which would in turn lead to large buildups of hydrogen sulfide in the hypolimnion, which would in turn lead to autumnal turnover events that would release large amounts of hydrogen sulfide that would result in fish kills and air quality that would be toxic to nearby residents. Dr. Hurlbert counters this project and asserts that since there would be no summer turnover events, the North Lake would establish an even greater vertical temperature differential than under existing conditions. This large vertical temperature differential would correspond to a large vertical density differential that would make sudden mixing of the whole water column impossible. Dr. Hurlbert states that he sees "*no strong case for expecting at summer's end, sudden dangerous sulfide degassing of North Lake, and hence, no basis for suggesting that the level of North Lake would have to be lower than present Sea level in order to prevent such an event.*" The Salton Sea Authority is confident that a deep North Sea would have a lower likelihood of turnover than is put forth by DWR.

G-16. Salton Sea Authority has several studies underway. The Salton Sea Authority has commissioned several studies on various aspects of the Salton Sea system, and on the feasibility of components of the proposed Salton Sea Authority Plan, such as the mid-sea barrier and water treatment facilities. Those reports not already discussed elsewhere in these comments, are summarized here:

- UC Riverside Sediment Study – Draft Interim Report: "Hydrogen Sulfide Production and Volatilization in the Salton Sea". This report describes study methods and summarizes sulfide and related water column data collected from September 2005 through November 2006 in support of this study. In addition to water column parameters, the study measured temperature, dissolved oxygen, pH and oxidation-reduction potential in sediment pore water. This study is included as Attachment 5.
- Tetra Tech – Pilot Testing of Water Treatment at the Salton Sea, California (Attachment 6). This study includes the preliminary results of a pilot water treatment unit (advanced oxidation and filtration system) designed to process hypnolimnetic water from the Salton Sea. Water samples were collected to assess the hydrogen sulfide removal efficiency of the advanced oxidation system and to evaluate other aesthetic components of the water.
- Tetra Tech – Salton Sea Modeling – Attachment 7 includes an October 31, 2006 report on the status of the Salton Sea modeling, including hydrodynamic, thermal, and water quality model calibrations and data to support model calibration.
- Eutrophication study – As part of the Authority's water quality treatment approach, the Authority is investing the use of a controlled eutrophication process (CEP). The goal of the project is to determine the efficacy of removing phosphorus from water that eventually discharges into the Salton Sea. The overall approach of the CEP concept is to stimulate rapid growth of algae in a well mixed high rate algal pond using a process design that permits accurate control of pond mixing rates, algal cell age, and nutrient concentrations. Details on this project are provided in Attachment 8.

G-17. The PEIR Does not Give Water Quality Improvement Credit to Alternative 7. The creation of wetlands are part of the Salton Sea Authority's Restoration Plan to improve water quality entering the sea through the reduction of nutrient-carrying silt. These wetlands would also provide wildlife habitat and recreational opportunities associated with hiking and bird-watching. Subsequent to publishing of the Draft PEIR, the Salton Sea Authority released a report funded by the Wildlife Conservation Board and authored by Tetra Tech, called the "*New and Alamo River Wetland Master Plan*". This report lays out conceptual plans for ultimate buildout of a total of 35 wetlands, and includes water quality improvement projections. At full buildout, the wetlands are projected to reduce phosphorous levels entering the Salton Sea by 35%. Detailed information is available in the Master Plan, included as Attachment 11.

SSA-63

SSA-64

SSA-65

SSA (cont.)

SSA-63

The current Salton Sea is considered polymictic (mixes several times during the year), but establishes thermal stratification during the summer. The projected temperature regime for the Recreational Saltwater Lake in Alternative 7 exhibits a more prolonged period of stratification as compared to recent conditions at the Salton Sea. However, the thermocline in the Recreational Saltwater Lake in Alternative 7 breaks down later in the year. The number of consecutive days of stratification increases from 57 days for the Salton Sea in the Recent Conditions simulation to 98 days under Alternative 7. The average wind speed is slightly higher in the Recreational Saltwater Lake in Alternative 7 as compared to the Recent Conditions simulation, but there are fewer high wind events. The thermal stratification is prolonged despite this increase in average wind speed.

The reason that the Recreational Saltwater Lake would develop a "greater vertical temperature differential than under existing conditions" is due to less wind fetch. The surface area of the Recreational Saltwater Lake is about 39 percent of the Salton Sea under the Recent Conditions configuration. The decrease in surface area and reduction in high wind events are more important in reducing the mixing energy of the system than the slight increase in average wind speed.

During the fall season, surface water temperatures of lakes begin to cool, which results in the gradual erosion of the temperature differences between the surface and bottom layers of water. As the temperature differential lessens, winds are able to overcome the density difference and result in sudden water column mixing. Wind was sufficient to mix the Salton Sea on Julian Day 225 under the Recent Conditions simulation, but not sufficient for the Recreational Saltwater Lake, which does not mix until Julian Day 280, as shown in Appendix D of the Draft PEIR. This prolonged stratification leads to greater accumulation of ammonia and hydrogen sulfide than under Recent Conditions, a subsequent depression of the dissolved oxygen in the hypolimnion, and stripping of oxygen from the water column upon mixing in the fall.

Information in Appendix D of the Draft PEIR shows that a shallower water body (10 to 12 meters deep) would experience more frequent mixing, and therefore be less prone to develop high levels of ammonia and hydrogen sulfide that lead to fish kills upon water column mixing.

SSA-64

Thank you for the information on the studies the SSA has underway. This information may be useful to any future implementing agency and could be incorporated into future project-level analysis as applicable.

SSA (cont.)

SSA-65

There was not sufficient information available to demonstrate the effectiveness of the proposed treatment facilities to remove contaminants; therefore, effects to water quality could not be evaluated. However, the Draft PEIR does evaluate effects to water quality in the alternatives, including Alternative 7, with a 50 percent reduction in phosphorus loading. The Draft PEIR also evaluates effects to Alternative 7 with an aggressive 90 percent reduction in phosphorus loading to simulate effects of possible future treatment actions.

This comment conflicts with statements in comment SSA-19. In SSA-19, the SSA states that the elimination of flows from Mexico would have to be combined with wetland treatment to achieve a 35 percent phosphorus load reduction to the Salton Sea. The CRBRWQCB states that the Mexicali II Wastewater Treatment Plant is expected to reduce total phosphorus loads into the Salton Sea by about 10 percent, which means the wetlands are assumed to reduce loading by an additional 25 percent. However, this comment (SSA-65) states that the wetlands alone would reduce phosphorus loading by 35 percent. If this is the case, then the wetlands would have to reduce phosphorus loads in the treated portions of the rivers by 70 percent to achieve a 35 percent reduction in loading at the Salton Sea, since half of the phosphorus loads from the rivers are downstream from the wetlands. This level of phosphorus reduction is highly unlikely. In addition, as stated previously, wetlands are not effective at removing phosphorus. As described in response to comment SSA-19, the estimated phosphorus reduction for the full build-out of 35 wetlands was based on model results for which phosphorus loss was partitioned into assumed uptake in wetlands and assumed loss through seepage, though no data are available to determine what those uptakes and losses should be. The ability of wetlands to remove phosphorus from rivers or drains in the Imperial Valley, though found not to be effective in other areas, cannot be determined until actual data are developed for phosphorus partitioning into uptake in wetlands and loss of seepage.

Page-Specific Comments

This set of comments identifies how the PEIR would be changed were it to reflect the updated version of the Salton Sea Authority's Plan, attached to these comments as Attachment 9.

PS-1. Page ES-20, paragraph 4
The following text is now redundant since the revised SSA plan assumes 717,000 AFY flows and the reduction in the size of the marine sea: "*if average inflows from 2018 to 2078 were 800,000 acrefeet/year. However, to provide a uniform basis of comparison, this alternative also was evaluated assuming an average inflow of 717,000 acre-feet/year. Under the lower flows, the surface area would be smaller and the salinity would be higher than projected in the definition of this alternative.*"

PS-2. Page ES-20, paragraph 4
The last sentence describes unique features of Alternative 7. It may also be noted here (if space is available on the page) that Alternative 7 is the only alternative that maintains an open-water waterfront at Salton City, and 1 of only 3 alternatives (5, 6, and 7) that maintains open-water waterfront at Desert Shores. This has a huge impact for the development potential in these communities. I suggest adding the following text to the last sentence, "...and continued open water at Salton City and Desert Shores."

PS-3. ES-20, summary box
Were the Final PEIR to reflect the revised SSA Plan, the SHC should be changed from 12,000 to 17,800 to reflect the revised SSA Plan to include 16,000 acres in the south sea and 1,800 acres in the north sea.

PS-4. ES-20, summary box
Were the Final PEIR to reflect the revised SSA Plan, 104,000 should be changed to 90,000 and the following text should be removed "*if inflows are 717,000 acre-feet/year*".

PS-5. ES-20, summary box
Were the Final PEIR to reflect the revised SSA Plan, the sentence starting with "*If inflows are 800,000….*" should be removed.

PS-6. ES-20, summary box
Were the Final PEIR to reflect the revised SSA Plan, brink sink acreage should be changed from 15,000 acres to 60,000 acres.

PS-7. Page 3-75, paragraph 1
Revise paragraph to state "*A preliminary version of Alternative 7 was defined by the Salton Sea Authority in spring of 2006. Since that time, the Authority developed a comprehensive plan in July 2006, and further refined approaches to Air Quality Mitigation and Salton Management in September 2006 and Ecological Features and Selenium Management in October 2006. These plans as provided by the Salton Sea Authority are included in Appendix I.*"

PS-8. Page 3-75, paragraph 2
Insert "and less saline" between the words "shallower" and "Recreational".

PS-9. Page 3-75, paragraph 2
To accurately reflect the northern SHC proposed in Alternative 7, revise end of first sentence to read "*..and two Saline Habitat Complexes located along the southwestern shoreline and at the mouth of the Whitewater River along the northern shoreline.*"

PS-10. Page 3-75, paragraph 3
Were the Final PEIR to reflect the revised SSA Plan, "*near mid-Sea*" should be changed to "*just north of mid-Sea*"

10

SSA-66

SSA (cont.)

SSA-66

The "Page-Specific Comments," PS-1 through PS-29, were provided by the commenter for the purpose of identifying "how the PEIR would be changed were it to reflect the updated version of the Salton Sea Authority's Plan." See the response to comment SSA-1.

SSA (cont.)

SSA-66 cont.

PS-11. Page 3-75, paragraph 4
Were the Final PEIR to reflect the revised SSA Plan, 800,000 should be changed to 717,000 in both places in this paragraph SSA Plan's movement of the sea wall to accommodate the original salinity goals despite a reduced inflow.

PS-12. Page 3-75, paragraph 5
Were the Final PEIR to reflect the revised SSA Plan, the entire paragraph related to inflows of 800,000 acre-feet/year should be deleted. The SSA Plan has been revised to reflect the 717,000 acre-feet/year inflow rate.

PS-13. Page 3-75, paragraph 6
Were the Final PEIR to reflect the revised SSA Plan, at the end of the 2nd sentence, after "*Recreational Estuary Lake,*" the following text should be inserted "*or, with approval of regulatory agencies, directly into the Saline Habitat Complex*".

PS-14. Page 3-75, paragraph 6
Were the Final PEIR to reflect the revised SSA Plan, the description of SHC under Alternative 7 should be revised to reflect that the SHC will receive priority for water use, alleviating the concern expressed regarding the potential of this habitat drying up.

PS-15. Page 5-54, paragraph 6
Were the Final PEIR to reflect the revised SSA Plan, "*Exposed Playa without Air Quality Management*" should be changed to "*Exposed Playa with Air Quality Management*" to reflect updates to the SSA Plan to include all air quality management measures from the Toolbox.

PS-16. Page 6-30, Table 6-5
Were the Final PEIR to reflect the revised SSA Plan, the text in the paragraph in the Comments column, 3rd sentence should be changed in the following way: change "*greater than 40,000*" to "*maintained at 35,000*" to reflect the changes in the SSA Plan to move the mid-Sea barrier to meet water quality objectives at the reduced flow rates.

PS-17. Page 6-35, paragraph 8
Were the Final PEIR to reflect the revised SSA Plan, see first paragraph under Alternative 7. Change "*Exposed Playa without Air Quality Management*" to "*Exposed Playa with Air Quality Management*" to reflect updates to the SSA Plan to include all air quality management measures from the Toolbox.

PS-18. Page 7-12, paragraph 5
Were the Final PEIR to reflect the revised SSA Plan, see first paragraph under Alternative 7. Change "*Exposed Playa without Air Quality Management*" to "*Exposed Playa with Air Quality Management*" to reflect updates to the SSA Plan to include all air quality management measures from the Toolbox.

PS-19. Page 8-24, Table 8-4
Were the Final PEIR to reflect the revised SSA Plan, the use of river water inflows for the SHC and the resultant reduced salinity would result in the following changes to Table 8-4: (1) On page 8-27, that "*Constructed Saline Habitat Complex would support tilapia and other forage fish.*" This statement should be expanded to include support of invertebrates, as is shown for other alternatives. (2) On page 8-34, that "*…the salinity of the Recreational Saltwater Lake and Saline Habitat Complex would be higher and might not support fish during Phase II.*" This statement should be revised to remove reference to the SHC.

PS-20. Page 8-66, paragraph 1
Were the Final PEIR to reflect the revised SSA Plan, see first paragraph under Alternative 7. Change "*Exposed Playa without Air Quality Management*" to "*Exposed Playa with Air Quality*

SSA (cont.)

Management" to reflect updates to the SSA Plan to include all air quality management measures from the Toolbox.

SSA-66 cont.

PS-21. Page 8-66, Table 8-21
Were the Final PEIR to reflect the revised SSA Plan, see row: "Saline Habitat Complex", and Column: "End of Phase II". Change 12,000 acres to 17,800 acres, and 6,000 acres to 8,900 acres.

PS-22. Page 8-66, Table 8-21
Were the Final PEIR to reflect the revised SSA Plan, see row: "Recreational Saltwater"...717,000... Since the Recreational Saltwater Lake would have a different salinity than the Recreational Estuary Lake, these features should be two separate rows within Table 8-21. For the Recreational Saltwater Lake, change 104,000 acres to 90,000 acres. Add separate row for the Recreational Estuary Lake, indicating that it would be 26,000 acres.

PS-23. Page 8-66, Table 8-21
Were the Final PEIR to reflect the revised SSA Plan, remove 3rd row on table regarding flow rates of 800,000 AFY.

PS-24. Page 8-66, Table 8-21
Were the Final PEIR to reflect the revised SSA Plan, see row "Brine Sink"... Remove reference to 717,000, since that is the new assumption for the SSA Plan.

PS-25. Page 8-66, Table 8-21
Were the Final PEIR to reflect the revised SSA Plan, see row "Maximum Exposed"... Remove reference to 717,000, since that is the new assumption for the SSA Plan.

PS-26. Page 8-66, Table 8-21
Were the Final PEIR to reflect the revised SSA Plan, change footnote "a" from 1,200 to 1,800.

PS-27. Page 8-66, paragraph 2
Were the Final PEIR to reflect the revised SSA Plan, the 3rd sentence should be revised to reflect that the revised SSA Plan includes the option to supply the southern Saline Habitat Complex water directly from the Alamo River, meaning that the complex would have salinity levels suitable for all fish starting in Phase I and continuing throughout project development.

PS-28. Page 8-66, paragraph 2
Were the Final PEIR to reflect the revised SSA Plan, see 5th sentence, and change "unless" to "until", since the target salinity for the Recreational Saltwater lake is 35,000 mg/L.

PS-29. Page 8-67, Table 8-22
Were the Final PEIR to reflect the revised SSA Plan, the calculations supporting the values in this table should be revised based upon the updates to the SSA Plan, which now includes nearly 50% more Saline Habitat Complex acreage, and less open water.

The air quality impact analysis for Alternative 7 is erroneous and results in higher calculated emissions than would result had the salt crust mitigation been included in the analysis. Moreover, the air quality analysis needs to be updated to include the incorporation of air quality mitigation measures from the tool box. The analysis should be revised to use the assumptions stated on page 10-29, which assume 30 percent of the Exposed Playa as being non-emissive, 50 percent as being controlled by Air Quality Management measures, such as water efficient vegetation, and 20 percent being controlled by other Air Quality Management methods, which in this case would be the application of brine to form a Protective Salt Crust.

The Authority anticipates the control efficiency of the Protective Salt Crust to be similar to that of the Protective Salt Flat (also referred to as the Salt Sink or Brine Sink in the PEIR); therefore, the

Authority requests that the revised analysis consider this 20 percent area to have an emission control efficiency of 85 percent. Support for the efficacy of a Protective Salt Crust is provided in the Authority's Air Quality Mitigation and Salt Management report.

PS-30. Page 10-84
Construction impacts. The October 2006 PEIR assumes that the Authority Plan involves the use of trucks to transport rock and gravel from the source of said material, to the sea, for construction of the in-sea Barriers (see page 10-80). Air emission calculations assumed that trucks would be carrying this material along a distance of 10-miles, one way. Since March 2006, the Authority Plan has been developed to include installation of a 2-mile long conveyor system that would move rock from the quarry at Coolidge Mountain, to the sea, where the materials would then be transported by barge to the appropriate in-Sea location and dropped. The Coolidge Mountain site is located in unincorporated Imperial County on tribal (Torres Martinez) land and private property. The conveyor system would involve a mine-car rail that would move the rock and gravel from the quarry to a barge loading pier south of Salton Sea Beach. The use of the conveyor system would drastically reduce the levels of fugitive dust and diesel exhaust generated compared to the use of off highway trucks.

PS-31. Page 13-15, paragraph 7
Were the Final PEIR to reflect the revised SSA Plan, see 1st sentence, and change "*up to 104,000*" to "*115,000*", and delete "*if average inflows are 800,000 acre-feet/year.*"

PS-32. Page 13-15, paragraph 7
Were the Final PEIR to reflect the revised SSA Plan, see 2nd sentence, change 12,000 to 16,000 and 1,200 to 1,800.

PS-33. Page 13-15, paragraph 7
4th sentence, insert the following at the beginning of the sentence: "*Except for the Brine Sink,*" since the Brink Sink would not provide recreational opportunities.

PS-34. Page 13-15, paragraph 10
Delete this paragraph and replace with "*Tilapia and marine sport fish species could be established in both the Recreational Saltwater and Estuary Lakes since salinity levels would be below 40,000 mg/L. Therefore, angling opportunities would be the same as Existing Conditions and the No Action Alternative, and sport fishing opportunities would be better than Existing Conditions and the No Action Alternative.*"

PS-35. Page 13-16, paragraph 2
Delete 2nd paragraph. This text would be replaced with the text suggested in the previous comment regarding the deletion of paragraph 10 on page 13-15.

PS-36. Page 18-47, paragraph 10
Delete text after "...would be similar to those described under Alternative 5," to reflect revision of the SSA Plan to include all air quality management techniques in the Toolbox.

PS-37. Page 22-13, paragraph 1
This paragraph/sentence does not make sense. Please reword.

Air Quality and Salt Crust Comments

AQ-1 - Chapter 10 and Attachments E1, E2, Construction Emissions
The use of common assumptions for comparing alternatives is reasonable only when those assumptions are reasonable for each of the alternatives being compared. When the scale and nature or construction activities varies substantially among alternatives, it is not reasonable to assume identical construction methods for each alternative. Alternatives 3, 5, 6, 7, and 8 include

SSA-66 cont.

SSA-67

SSA (cont.)

SSA-67

The Draft PEIR assumed similar construction methods for each type of facility common to the various alternatives (e.g., construction of barriers, berms, and air quality management). This approach was chosen to allow comparison of the overall alternatives, even though the construction techniques and mitigation measures ultimately implemented would likely vary between the alternatives. Future project-level analysis may differentiate between construction methods to provide a range of methods for comparison of impacts and evaluation of mitigation effectiveness.

construction of major barriers in or across Salton Sea. It is unreasonable to assume that construction techniques and equipment for those barriers would be the same as those used for small berms.

SSA-67 cont.

AQ-2 - Chapter 10 and Attachments E1, E2, Construction Emissions
Appendices H-5 and H-6 discuss the use of mine-haul trucks, rail systems, electric conveyor systems, and electric mine car systems for transporting rock and gravel fill material to construction sites at the Salton Sea, and categorizes these transport methods as "the most viable options for quarry sites near the Salton Sea". Yet these methods of material transport are not discussed in the PEIR text, and are not considered in the PEIR air quality analyses, even though Appendix H-6 says they are probably the most viable transport methods for alternatives requiring large-scale transport of rock and gravel.

SSA-68

AQ-3 Chapter 10 and Attachments E1, E2, Construction Emissions
APCD fugitive dust control requirements and Clean Air Act conformity requirements will force agencies to adopt construction techniques that minimize equipment emissions and fugitive dust emissions. The PEIR needs to base its comparison of alternatives on such construction methods, especially since Appendices H-5 and H-6 imply that material transport methods other than highway trucks are not only feasible but probably the most economical. Using an artificial and unreasonable assumption about construction methods (particularly the assumption that all rock and gravel would be transported in 20-ton highway trucks) results in an artificial and unreasonable comparison of alternatives that defeats the basic purpose of using the PEIR to select a preferred alternative.

SSA-69

AQ-4 Chapters 3 and 10, Executive Summary, Appendix H-7, Construction Methods
Chapters 3 and 10 need to address differences in construction methods that are probable for major features of the different alternatives. In particular, methods for transporting large quantities of rock and gravel need to be discussed, recognizing the transport methods noted in Appendices H-5 and H-6. None of the maps in the PEIR text show the location of existing rail lines, even though rail transport of rock and gravel is clearly a potential material transport method. The text should reference Figure H5-2 in Appendix H-5, which shows existing rail lines and potential quarry areas near Salton Sea.

SSA-70

AQ-5 Text and Attachment E9, Salt Crust formation mechanisms
Before comparisons can be made between Salton Sea and other locations concerning the potential for salt deposit formation and subsequent air quality problems, there must be reasonable evidence that the basic hydrologic mechanisms for salt deposit formation are similar. The mechanism of formation has an important influence on the potential amount and spatial distribution of any salt deposits that form. Those factors, in combination with considerations of salt chemistry and mineralogy, control the extent to which salt deposits play a role in development of air quality problems. The PEIR does not provide any evidence that salt formation mechanisms at Salton Sea will be similar to those that produced the Owens Lake dust storm problem.

SSA-71

Supplemental Discussion, Comment AQ-5
Five general hydrologic mechanisms for salt deposit development are easily identified:

A. Evaporation of saline water from the wetted zone around the shore of a saline water body (wetted zone produced by wave run-up or rapid lake level fluctuations). This is a universal mechanism at saline lakes, but it is not capable of forming geographically extensive salt deposits.

SSA-72

B. Evaporation from sediments wetted by saline surface water flows (direct discharge from saline springs or percolation of streamflow when the stream is fed by saline springs or discharging saline groundwater). Unlikely to create geographically extensive salt deposits.

SSA-73

C. Evaporation from very shallow saline groundwater or surfacing saline groundwater zone exposed by changing lake levels. This is the dominant

SSA-74

14

SSA (cont.)

SSA-68

The use of a train or conveyor system to transport rock from a potential quarry at Coolidge Mountain to the Salton Sea would reduce diesel exhaust and fugitive dust emissions, when compared to transport of materials in heavy-duty trucks. However, the approach used to compare the alternatives in the Draft PEIR was to rely on a common set of assumptions (see Chapter 3), such as using heavy-duty trucks to transport materials. The Draft PEIR presented a discussion of potential mitigation measures, such as the use of trains or conveyor systems, in Appendix E, Attachment E-5. These and other mitigation measures could be considered as part of future project-level analysis.

SSA-69

See response to comment SSA-68. Selection of construction techniques to reduce emissions, compliance with air agency fugitive dust control requirements, and demonstration of General Conformity requirements for federal actions would be more appropriately addressed during project-level analysis.

SSA-70

Although different construction methods may be used for different alternatives, as summarized in Table 3-1 of the Draft PEIR, evaluation of specific construction actions was identified as an area needing further study during project-level analysis. Material transport methods such as rail cars, electric conveyor systems, and electric tramways would be more appropriately addressed during project-level analysis. In general, the locations of the existing rail lines were left out of the maps in the Draft PEIR for clarity. Appendix H-5 (Potential Rock Sources) of the Draft PEIR includes figures to illustrate the locations of the existing rail lines and the potential rock quarries.

SSA-71

With regard to similarity between salt playa formation processes at Salton Sea and other playas, the mechanism for formation of salt crust as saltwater evaporates is precipitation of salts from water in the soil pore spaces. It is recognized that the mechanism of formation of a salt crust has uncertainties that affect the extent, location, and intensity of emissive areas (see the response to comment SSA-14). Part of the uncertainty is a result of localized substrate and evaporite conditions, and part is from successive seasonal "reworking" of minerals formed on and near the surface.

SSA (cont.)

SSA-71
cont.

For these reasons, emissions parameters cannot be precisely forecasted on theoretical grounds, or through comparisons with other playas. However, conditions on other playas, including Owens Lake, can provide points of reference with regard to the range of conditions that may be encountered at the Salton Sea as the water levels decline.

SSA-72

It is recognized that evaporation from the wetted zone around saline water bodies can contribute to salt deposit development, but does not produce geographically extensive salt deposits. For non-fluctuating or slowly fluctuating zones, wicking is also a known mechanism for salt efflorescence.

SSA-73

It is recognized that evaporation of saline surface water flows can contribute to salt deposit development. Wicking is a known mechanism in flat or low-gradient zones.

SSA-74

It is recognized that evaporation of shallow saline groundwater or surfacing saline groundwater zones exposed by changing lake water levels can contribute to salt deposit development.

mechanism for salt deposit formation at Mono Lake, where declining lake levels exposed a zone of previously subsurface saline groundwater inflow.

D. Salt pan deposited on a lakebed from salt-saturated lake waters, with the salt deposits then exposed to air by falling water levels. This was the primary mechanism for the original salt deposits formed as Owens Lake desiccated. Those original salt deposits have subsequently been re-worked by precipitation and surface water inflow events (see mechanism E).

E. Salt pan deposited by desiccating lake dissolved by precipitation or surface water inflows, with dissolved salts then percolating into lakebed sediments to augment a saline groundwater body or to leave salt-impregnated sediments. Subsequent seasonal salt deposit formation when precipitation, surface water inflows, or groundwater inflows bring saline water close enough to the ground surface to allow capillary action and surface evaporation with resulting salt deposition on the ground surface. Probably the major current mechanism operating at Owens Lake. But this mechanism does not exist without the initial desiccation of the lake to create salt deposits on an exposed playa (mechanism D) that can then charge the system with a significant salt load.
(See supplemental material for Comment AQ-116 regarding issues of salt chemistry, included in Attachment 10.)

AQ-6 Text and Attachment E9, Salt Crust formation mechanisms
The water balance model for the Salton Sea summarized in Chapter 5 shows only 11,000 acre-ft per year of groundwater inflow, compared to 49,141 acre-ft per year of direct precipitation input. This indicates that declining water levels at the Salton Sea are unlikely to expose any significant zones of saline groundwater inflow (the Mono Lake salt deposit formation mechanism). (See supplemental discussion for Comment 4 and Comment 116)

AQ-7 Text and Attachment E9, Salt Crust formation mechanisms
The PEIR fails to provide a salt balance timeline for the major water bodies associated with the different project alternatives. The only information provided is an estimate of overall salinity levels. Thus, it is somewhat uncertain when directly precipitated salt deposits (the mechanism for initial salt deposit formation at Owens Lake) might form at Salton Sea under the various alternatives, or what portion of those deposits might be exposed by projected further declines in water levels. (See supplemental discussion for Comment 4 and Comment 116)

AQ-8 Text and Appendices , Salt balance and salt crust formation mechanisms
Chapter 6 of the PEIR notes that calcite and gypsum seem to be precipitating from the Salton Sea. Calcite and gypsum precipitation remove dissolved calcium from the lake water, and gypsum precipitation also removes dissolved sulfate. The PEIR provides an estimate of overall salinity levels in the brine sink, but does not provide any more detailed salt balance information concerning future conditions at the Salton Sea. For most of the aquatic habitat features of the alternatives, predicted salinity levels indicate that sodium salts in the Salton Sea will not reach saturation, and thus will not precipitate on exposed lakebed sediments as water levels decline. Instead, dissolved salts will simply drain through exposed sediments back into the lake as the groundwater table adjusts to changing water levels in the Salton Sea. Only the brine sink features are predicted to have salinity levels consistent with salt saturation conditions. Thus, the mechanism for initial salt deposit formation at Owens Lake will only exist in the brine sink areas. (See supplemental discussion for Comment 4 and Comment 116)

AQ-9 Chapter 6, Water Quality data for surface water inflows
The PEIR fails to provide mineral water quality data for the major streams feeding the Salton Sea. This prevents analysis of whether evaporative salt deposit formation along the shoreline of the southern part of Salton Sea may be due to sulfate levels in the discharge from the Alamo River, New River, agricultural drains, or San Felipe Creek that are higher than the average sulfate level for lake water.

15

SSA-74 cont.

SSA-75

SSA-76

SSA-77

SSA-78

SSA-79

SSA-80

SSA (cont.)

SSA-75

It is recognized that salt deposited on a lakebed from salt-saturated lake waters can contribute to the development of salt crusts.

SSA-76

Just as the water standing in the Salton Sea is saline now, so will it be where its surface drops below the level of the sediments, creating generally saline shallow groundwater. Initial solid salt load from the evaporation of aboveground water is not essential to the creation of a salt crust on a new playa. This can be achieved by the evaporation of groundwater as it wicks to the surface, as noted in comment SSA-74. However, this mechanism is not dependent on saline springs, as that comment implies. Rather, any saline shallow groundwater (e.g., perched regional groundwater) would have the same effect.

SSA-77

See response to comment SSA-76.

SSA-78

See response to comment SSA-71. The immediate source of salt to the playa surface can be saline shallow groundwater, soil pore water, or surface water. The comment implies that salt in the playa is supplied directly from overlying surface water, and that the concentrations of minerals in that overlying water determine the nature of the future playa by controlling precipitation of salts onto the playa. This is typical in engineered salt ponds. However on playas, chemical conditions in pore water may be very different from that of the remnant Salton Sea. Therefore, the chemistry of the remnant Salton Sea is not the sole and critical determinant of the nature of the future playa.

The Draft PEIR contains a general salt balance, focused on the main water bodies. However, only bulk salt is tracked. This approach would not serve the purpose of detailed chemical equilibrium modeling that was implied to be necessary by the commenter in this and other comments. However, detailed modeling would likely not be sufficiently predictive, even if input data from a more detailed salt balance were available.

SSA-79

The concentration of the Brine Sink is a separate phenomenon from the effects of capillary wicking and salt concentration at the soil surface. Wicking from under-saturated brines can result in salt efflorescence. See response to comments SSA-71 and SSA-76.

SSA (cont.)

SSA-80

Average sulfate levels for the Salton Sea indicate that, when these surface water inflows are evaporated to dryness, sulfate salts are produced. Further, there is significant mixing once water is discharged into the Salton Sea. This is consistent with the observations of efflorescent sulfate salts at locations at the northern, as well as at the southern end of the Salton Sea. The regional differences in chemistry postulated in the comment are likely small enough so that they do not significantly affect the findings of the Draft PEIR. See also response to comment SSA-78 regarding the significance of Salton Sea water chemistry in determining the nature of the future playa. See also response to comment SSA-14.

Salton Sea Authority Comments on the Salton Sea Ecosystem Restoration PEIR

AQ-10 Chapter 6, Salton Sea salt balance
The PEIR and its appendices fail to provide a timeline of changing salinity and salt balance conditions for the No Action Alternative and the various water bodies associated with project alternatives. Such data are essential for determining when the different major salts in the Salton Sea will reach saturation and begin precipitating to form a salt bed that might be exposed by further declines in water levels. A proper analysis of air quality impacts, even at a programmatic level, requires such information.

SSA-81

AQ-11 Chapter 10 and Appendix E, Emission potential of salt deposits
The PEIR needs to distinguish between barren sediments that would be exposed under the various alternatives and areas where deposition of salts from saturated brines may occur and subsequently be exposed by further predicted declines in water levels. For areas where salt deposition from saturated brines may occur, the PEIR needs to evaluate the expected chemistry of the resulting salt deposits in order to determine whether those deposits are a potential source of emissions or would be an effective cap protecting underlying sediments from wind erosion. This is a generic issue that requires analysis at a programmatic level. (See supplemental discussion for Comment 116)

SSA-82

AQ-12 Text and Attachment E9, Salt Crust formation mechanisms
The only hydrologic mechanism for salt deposit formation at the Salton Sea that has been implied in the PEIR is evaporation of saline water from a wetted shoreline zone. The DRI study found only one salt deposit at a location more than 1 meter above lake level. All other salt deposit locations were in the immediate shoreline area. If evaporation from recently wetted shoreline sediments is the primary mechanism for formation of efflorescent sulfate salts, then this seasonal, localized, and spotty distribution of limited salt deposits will move up and down with changing lake levels. This mechanism is incapable of producing the large scale dust storms seen at Owens Lake or Mono Lake. It simply does not affect a large enough geographic area to make the Salton Sea another Owens Lake.

SSA-83

AQ-13 Attachment E9, Salt Crust formation mechanisms
PEIR Attachment E9 appears to use the term "efflorescence" as a synonym for "evaporative salt deposits" rather than as the mineralogical definition meaning salts exhibiting a phase change from a crystalline structure to a non-crystalline amorphous powder. When used in a generic sense as meaning an evaporative deposit, the term efflorescence must not be interpreted as implying a high emission rate. The PEIR also seems to assume that all evaporative salt deposits are efflorescent in a mineralogical sense and therefore will have high emission rates. This simply is not true.

SSA-84

AQ-14 Attachment E9, Emission potential of salt deposits
While PEIR Attachment E9 lists and discusses number of different salt minerals, it fails to distinguish between those salt minerals that can contribute to the development of air quality problems and those that do not contribute to air quality problems. No evidence is presented to demonstrate that gypsum deposits are a frequent source of significant fugitive dust problems. Where and under what conditions have gypsum deposits been linked to significant fugitive dust problems? If gypsum deposits are not a source of fugitive dust problems, then formation of gypsum deposits would either be a potential mitigation measure or would simply not be a concern in terms of effectiveness and feasibility of mitigation measures based on forming and maintaining a halite crust.

SSA-85

AQ-15 Attachment E9, Emission potential of salt deposits
The PEIR provides no evidence that sodium chloride deposits are a source of fugitive dust problems. Where and under what conditions have halite deposits been linked to significant fugitive dust problems? If halite deposits are not a source of fugitive dust problems, then deliberate creation and maintenance of halite crusts is an effective mitigation measure, and even unintentional creation of a halite salt crust would be effective mitigation for at least a temporary

SSA-86

16

SSA (cont.)

SSA-81

See response to comments SSA-14, SSA-71, SSA-76, and SSA-78. Future playa salt minerals could not be predicted with certainty at the time of preparation of the Draft PEIR. If required data are available when project-level analysis is prepared, then predictions can be developed at that time. The geographic distribution of responsibilities for air quality management differ under the No Action Alternative from those for the other alternatives. Actions referenced under the response to comments SSA-14 and SSA-71 need to be considered in the context of the No Action Alternative.

SSA-82

Salt blooms can occur in zones other than those saturated with salt. Besides extremes of saturated brine and barren sediments, there are intermediate zones underlain by shallow saline groundwater. The capillary wicking of these waters to the surface can lead to efflorescence. Under future conditions, Exposed Playa areas would generally have some salts associated with them. See response to comments SSA-71 and SSA-76.

SSA-83

The Draft PEIR does not imply or discuss only one mechanism for salt deposit formation at the expense of others. The Salton Sea is large and the conditions in and around it are diverse. It is therefore not reasonable to consider that soluble salt will move to and away from playa surfaces in the same manner and intensity throughout the entire emerging playa. See response to comments SSA-71 and SSA-76.

SSA-84

Appendix E-9 of the Draft PEIR discusses the specific salts found in the Salton Sea, and how (from the standpoint of mineralogy, climate, and anticipated concentrations associated with the drying of the Salton Sea) these might give rise not only to salt deposits, but to efflorescent salt deposits in particular.

It is not assumed in the Draft PEIR that all salt deposits are efflorescent. Rather, it is understood that on the basis of the Salton Sea's chemistry and climate, the salt deposits that do form on the Salton Sea playa could effloresce. Indeed some of these deposits were observed to do so during field investigations for the Draft PEIR. When this occurred, high emissions rates were observed, relative to observations at the same sites during the non-efflorescent summer period (see Appendix E, Attachment E3 of the Draft PEIR).

SSA (cont.)

SSA-85

In Appendix E, Attachment E9 of the Draft PEIR, a series of minerals that could form as a result of evaporation of saline pore water from Salton Sea playa are presented, and the potential for each to be associated with efflorescence is discussed.

Gypsum is only one of the minerals so discussed. Evidence linking a gypsum deposit to an efflorescent condition is presented in the form of a single reference. No micromineralogical observations of the effflorescing salts at this site are available. Glauberite and bloedite, which are also sulfate minerals, are also identified as potentially forming in the Brine Sink. Brine Sink chemistry is only part of the picture. On actual playas, crust minerals of a first sort dissolve when the surface is periodically wetted, then precipitate again, perhaps as the same mineral, or perhaps as a different mineral. Just as the original mineral was determined by moisture, climate, and chemical conditions at the time of its precipitation, so the nature of the second mineral will be determined by the (perhaps different) conditions at the time that it precipitates. In this way, minerals composing the crust change over time. This is the reason that Appendix E, Attachment E9, discusses multiple minerals, each of which could form from chemical constituents of the Salton Sea under a particular range of conditions.

Given the chemistry at the Salton Sea, gypsum and other sulfate minerals are expected to occur at most playa locations where salt is not removed by local storm or spring flow, wind erosion, or some active process, such as facilities constructed to select and decant brines based on varying density.

Based on future monitoring data, where gypsum or other salts result in a perennially stable playa, no additional Air Quality Management may be needed. See response to comment SSA-14. See also response to comment SSA-16.

SSA-86

Halite is among the minerals discussed in Appendix E, Attachment E9 of the Draft PEIR. Evidence linking a halite deposit to an efflorescent condition is presented. No micromineralogical observations of the efflorescing salts at this site are available. On actual playas, crust minerals of a first sort dissolve when the surface is periodically wetted, then precipitate again, perhaps as the same mineral, or perhaps as a different mineral. Just as the original mineral was determined by moisture, climate, and chemical conditions at the time of its precipitation, so the nature of the second mineral will be determined by the (perhaps different) conditions at the time that it precipitates. In this way, minerals composing the crust change over time. This is the reason that Appendix E, Attachment E9 of the Draft PEIR discusses multiple minerals, each of which could form from chemical constituents of the Salton Sea under a particular range of conditions.

SSA (cont.)

**SSA-86
cont.**

Given the chemistry of the Salton Sea, there is no guarantee that any particular area would form a pure halite surface without intensive infrastructure and management to ensure that this occurs, and similar management would likely be required to sustain conditions and provide long-term maintenance.

At the Salton Sea Air Quality Working Group meeting on March 14, 2006, and at the Salton Sea Advisory Committee meeting on March 16, 2006, playa stabilization approaches were discussed. The potential extent of emissive playa was discussed. It was the consensus of the Committee that, for planning future dust control measures, it would be prudent to assume that up to 70 percent of the Exposed Playa would become emissive. It was assumed that 50 percent of the Exposed Playa would use Air Quality Management, such as water efficient vegetation, and 20 percent would use other Air Quality Management measures (see assumptions in the PEIR in Table 10-14, page 10-36 of the Draft PEIR).

Based of future monitoring data, where halite or other salts result in a perennially stable playa, no additional Air Quality Management may be needed. See response to comment SSA-14 for more information. See also response to comment SSA-16.

period. Where the prevailing conditions provide for either continuous or seasonal salt crust replenishment, even an unintentional halite salt crust can last for very long periods of time.

AQ-16 Attachment E9, Emission potential of salt deposits
If the PEIR assumes that halite and gypsum deposits will be sources of air quality problems, why is it that there are no significant fugitive dust problems associated with the Bonneville Salt Flats in Utah? The Bonneville Salt Flats are composed of alternating layers of halite and gypsum. There are no PM10 non-attainment designations for Tooele and Box Elder Counties, Utah where the Bonneville Salt Flats and other adjacent large salt deposits are located. If the PEIR recognizes that halite and gypsum deposits are not a source of air quality problems, then that needs to be clearly stated in the document and needs to be reflected in the assessment of fugitive dust emissions and in estimates of mitigation measure effectiveness. (See discussion below and Great Salt Lake Desert sheet, included in Attachment 10)

AQ-16 Supplemental discussion
The Bonneville Salt Flats occupy a 150 square mile (96,000 acres) portion of a much larger desert playa area that includes Pilot Valley, Newfoundland Basin, Bonneville Salt Flats, and the Great Salt Lake Desert west of the Great Salt Lake. The Bonneville Salt Flats are part of a dynamic playa system that has endured for at least several centuries, and perhaps since the desiccation of Pleistocene Lake Bonneville. The northern half of Bonneville Salt Flats is mostly public land managed by the Bureau of Land Management. The southern half of Bonneville Salt Flats is mostly private land used for commercial production of potassium chloride (potash) and magnesium chloride brine. The processes used by the commercial facilities result in large deposits of halite removed from the brine. (See Great Salt Lake Desert satellite image sheet, included in Attachment 10.)

While weather conditions lead to fluctuations in the exact acreage and thickness of the salt deposits at the Bonneville Salt Flats, more than 30,000 acres in the northern half of the salt flats are categorized as permanent crystallized salt flat with a typical thickness of 1 – 3.5 feet. Federal agencies (primarily the US Geological Survey and the US Bureau of Land Management) have conducted scientific studies of the salt flats since 1960. The permanent salt crust typically has a 4-layer structure of alternating halite and gypsum layers (from top to bottom: halite, gypsum, halite, gypsum), and is underlain by a thick layer of non-cemented large halite crystals that rests on top of the playa sediments. Periodic flooding of the Bonneville Salt Flats from desert thunderstorms has not removed the permanent salt crust.

Interstate 80 runs through the middle of the Bonneville Salt Flats, separating the largely public northern half from the largely private southern half. Uses of the BLM-managed portion of the salt flats include mineral leases for commercial brine extraction and commercial filming for motion pictures and advertising purposes, and a variety of public events such as land speed racing, competitive archery events, and competitive rocket launching events. An annual Speed Week is held in late summer or early fall. General recreational uses include sightseeing and off-road vehicle use. An annual average of 7,500 – 7,900 vehicles per day travel through the Bonneville Salt Flats on Interstate 80 (2003 – 2005 data). The Bonneville Salt Flats receive approximately 125,000 visitors per year (2000 data). If there were any significant fugitive dust problems associated with the Bonneville Salt Flats, that information would be known to federal and state agencies.

General References for Bonneville Salt Flats:
Carpenter, Glenn A. 2002. The U.S. Bureau of Land Management's Role in Resource Management of the Bonneville Salt Flats. Pages 499 – 506 in J. Wallace Gwynn, ed., Great Salt Lake: An Overview of Change. Special Publication of the Utah Department of Natural Resources, Utah Geological Survey. Document downloaded from BLM website (www.ut.blm.gov/wh3bsfsalt.html) on November 14, 2006.

SSA-86 cont.

SSA-87

SSA (cont.)

SSA-87

The Draft PEIR does not state that all halite and gypsum deposits are or would be emissive. Neither was it assumed that the playa would necessarily be dominated by stable halite and gypsum deposits. See response to comments SSA-85 and SSA-86.

Turk, L. J. 1973. Hydrogeology of the Bonneville Salt Flats, Utah. Water-Resources Bulletin 19. Utah Geological and Mineral Survey. Salt Lake City, UT. Document downloaded from Utah Department of Natural Resources library website (www.dnrlibrary.utah.gov) on November 18, 2006.

AQ-17 Attachment E9, Emission potential of salt deposits
Why didn't the PEIR investigate whether air quality problems have developed at the Great Salt Lake as a result of large fluctuations in water levels during recent decades? Water levels at Great Salt Lake have fluctuated by over 20 feet since data records began in 1847, and the lake typically fluctuates by 1 – 2 feet on an annual cycle. Water levels at Great Salt Lake have dropped more than 10 feet since the late 1980s. Because Great Salt Lake is relatively shallow, water level fluctuations result in large changes in lake surface area and shoreline sediment exposure. Salinity levels in Great Salt Lake are much higher than those in Salton Sea (about 13% salinity in the south arm, and about 25% salinity in the north arm). And like Salton Sea, Great Salt Lake is a chloride-dominated system with sulfate as a secondary salt. Sodium sulfate is known to precipitate on the lake bed during cold winter periods. The Great Salt Lake even has a rock-filled causeway across the middle of it (built in the 1950s). (See supplemental Utah DNR and DEQ fact sheets and Great Salt Lake Chemistry sheet, included in Attachment 10)

AQ-18 Text and Attachment E9, Salt Crust formation mechanisms
The only efflorescent salt deposits identified in the vicinity of Salton Sea are those that have been found along the immediate shoreline, especially around the southern half of Salton Sea. But the PEIR fails to provide any evaluation of these seasonal and localized deposits or of the underlying hydrologic mechanisms that produce them. Nor is there any information provided to determine whether the appearance of these deposits is a relatively recent occurrence or is a phenomenon that has existed for a long time.

AQ-19 Attachment E9, Salt Crust formation mechanisms
Anecdotal information provided by Al Kalin (Imperial County Farm Bureau) at the November 7, 2006 Air Quality Working Group meeting suggests that efflorescent salt problems at the south end of Salton Sea have gotten worse in recent years, and that this year is the first time he has seen any evidence of crop damage from saline dust. If the seasonal development of efflorescent salt deposits has in fact become more extensive in recent years, what are the likely causes? It is important to understand the origin and dynamics of the seasonal efflorescent salt deposits at Salton Sea. An understanding of these deposits would help predict future conditions at Salton Sea and would help identify mitigation measures to eliminate or minimize their formation.

AQ-20 Attachment E9, Salt Crust formation mechanisms
The DRI study used to estimate emission rates from exposed sediments included chemical analyses of bulk soil samples. Why didn't that study also include chemical analyses of the salt deposits where portable wind tunnel and PI-SWERL analyses were conducted? The known chemistry of Salton Sea waters and the narrative descriptions of the deposits suggest that they are probably sodium sulfate salts, but without laboratory analyses there is no conclusive evidence that this is so. If the salts turn out to be sodium carbonate salts, then something very unusual is happening at the south end of the Salton Sea. The failure to obtain chemical analyses represents a missed opportunity to rule out unusual and unexpected conditions.

AQ-21 Attachment E9, Salt Crust formation mechanisms
The PEIR needs to provide a basic salt balance analysis for Salton Sea so that data such as Appendix D to Attachment E9 and the attached salt saturation curve sheet (at end of AQ comments) can be used to determine if the current development of evaporative salt deposits along the southern part of Salton Sea is simply the expected result of evaporation of typical Salton Sea waters at low temperatures or represents some other process. A salt balance analysis is also required to determine whether sodium chloride or sodium sulfate is likely to be the first salt to reach saturation and form precipitated deposits as water levels decline and salinity levels in the brine sink increase under the various alternatives. That information is critical to a

SSA-88

SSA-89

SSA-90

SSA-91

SSA-92

SSA (cont.)

SSA-88

The Great Salt Lake is a dominantly sodium chloride system at this point. The Salton Sea contains significant proportion of sulfate at this time (as discussed in references developed as part of the Salton Sea Ecosystem Restoration Study, listed in Appendix E, Attachment 12 of the Draft PEIR and available on DWR's website as noted). Therefore, the Great Salt Lake may not be a fitting analogy relative to playa mineralogy as the Salton Sea recedes. See response to comment SSA-86.

SSA-89

Detailed historical data and mineralogy for the deposits around the southern end of the Salton Sea were not available during preparation of the Draft PEIR. However, some historical perspective was provided to the Salton Sea Air Quality Working Group by lifelong (60 year) residents of areas adjacent to the Salton Sea. This historical perspective confirms that these deposits have long been identified as active sources of windblown dust that periodically produce intense dust storms, and that events tend to be most severe when cooler weather triggers a softening of the protective crust (see Appendix H-3, Attachment 1 of the Draft PEIR).

SSA-90

There is no evidence that, as waters recede, precipitation of similar minerals or the formation of similar playa would somehow be precluded. See response to comment SSA-14.

SSA-91

See response to comment SSA-89. Since 2000, the average Salton Sea surface water level has declined by more than a foot, exposing areas of previously inundated Sea Bed that seasonally could become emissive. This condition may be a contributing factor to the recently observed crop damage; however, sufficient information is not currently available to draw this conclusion. Further research is recommended and would be more appropriately conducted during project-level analysis.

SSA-92

The soils at each of the test sites in the study conducted by Desert Research Institute were sampled and analyzed for a broad range of chemical properties. Finalized analytical data were not available during preparation of the Draft PEIR.

SSA (cont.)

SSA-91
cont.

The sites referenced in the comment were adjacent to the Salton Sea. As such, their hydrology and geochemistry are relatively consistent with the Salton Sea, and are likely consistent with the future playa. The chemistry of playas tends to be closely related to the chemistry of their pore water, which is in turn closely related to that of the overlying body of water as it shrinks. As indicated, sodium bicarbonate (carbonate salts) are not expected. Rather, only mineral forms derived from the major mineral species and their weathering products are anticipated. For this reason, test sites on the margin of the Salton Sea are judged to be the best possible current representation of the future playa.

SSA-92

See response to comments SSA-78, SSA-85 and SSA-86. Detailed chemistry and a salt balance are not, however, required to resolve the questions posed in the comment. Sulfate salts such as gypsum are known to precipitate in the Salton Sea now, so that in the more highly concentrated conditions of Exposed Playa, they should also precipitate. Chloride salts tend to be more soluble, and do not preclude precipitation of sulfate salts. The same relative pattern occurs for calcium as well as sodium salts, with the sodium salts being the more soluble. Generally, the mineral evolution during evaporation is not readily quantified, and should not be inferred to be so. Salt mineral formation can only be addressed in general terms at this programmatic level of evaluation.

reasonable analysis at the programmatic level of whether or not areas around the brine sink would be emissive. (See salt saturation curve sheet at the end of these comments)

AQ-22 Attachment E9, Salt Crust formation mechanisms
Is there any general correlation between the development of localized areas of efflorescent salt deposits along the shoreline of Salton Sea and atypical weather conditions? Is there any general correlation between development of localized areas of efflorescent salt deposits along the shoreline of Salton Sea and atypical lake level fluctuations?

AQ-23 Text and Attachment E9, Salt Crust formation mechanisms
Are the seasonal evaporative salt deposits around the southern part of Salton Sea due to localized differences in lake water chemistry associated with sulfate-rich water inflows? If so, what are the dominant inflow sources (ag drainage, San Felipe Creek, groundwater affected by geothermal activity, etc.)? Chapter 7 of the PEIR indicates high sulfate levels for groundwater in the Ocotillo-Clark groundwater basin. Geothermal resources are being developed along the southern shore of Salton Sea. Figure 21-2 of the PEIR shows the Salton Sea KGRA extending from about the Alamo River north to near Bombay Beach. Other references (Hulen et. al., cited in the PEIR bibliography) show a thermal gradient anomaly extending along the south shore of the Salton Sea almost to the New River. Could any of these features be creating above-average sulfate concentrations in shallow water along the south shore of the Salton Sea?

AQ-24 Text and Attachment E9, Salt Crust formation mechanisms
Notable areas of seasonal efflorescent salt deposits are in the immediate vicinity of the Flood Control Dike at the New River delta. Has the dike affected water circulation in a manner that increases the formation of seasonal efflorescent salt deposits? Could the localized formation of efflorescent salt deposits be prevented or minimized by actions that provide better mixing or different current flow patterns of these inflows?

AQ-25 Text and Attachment E9, Salt Crust formation mechanisms
Are the current localized areas of evaporative salt deposits simply the result of lake level fluctuations and wave-runup providing a temporary source of saline water during cool weather periods when evaporation of the saline water allows sodium sulfate salts to reach saturation levels and precipitate at the soil surface before chloride salts precipitate? If so, how would the features associated with the different alternatives affect future lake level fluctuations and wave runup processes? If lake level fluctuations and wave runup are the causal factors for these salt deposits, alternative that eliminate large water bodies in the southern part of Salton Sea would appear to reduce or eliminate future development of these deposits.

AQ-26 Text and Attachment E9, Salt Crust formation mechanisms
If the PEIR assumes that current areas of seasonal efflorescent salt deposits are representative of future salt deposits that may form in the brine sink features of the various alternatives, then why is it that the Agrarian Research pilot salt crystallization project produced a stable salt crust that is nearly 90% sodium chloride?

AQ-27 Text and Appendix H-3, Air Quality Mitigation Measures
Why wouldn't a sodium chloride salt cap such as that proposed in Alternative 7 provide 100% control of fugitive dust from the underlying sediments? Why would 100% coverage with a sodium chloride salt cap be less effective than vegetation, which provides much less than 100% surface coverage? Why would 100% coverage with a sodium chloride salt cap be less effective than using a gravel cover? The 2003 Owens Valley PM10 SIP says that 4-inch gravel blankets using ½-inch gravel are 100% effective in eliminating wind erosion on the Owens Lake playa, and that test plots in place for 17 years have continued to completely protect the covered surface from wind erosion. The 2003 Owens Valley PM10 SIP also says that such gravel blankets are effective for wind speeds up to 90 mph. If gravel cover has been proven to be completely effective, why wouldn't a halite salt crust be equally effective?

SSA-92 cont.

SSA-93

SSA-94

SSA-95

SSA-96

SSA-97

SSA-98

SSA (cont.)

SSA-93

Detailed data on the development of efflorescent salts were not available during preparation of the Draft PEIR, but may be the subject of future air quality research and development. If available, these data could be included as part of future project-level analysis.

SSA-94

See response to comment SSA-80.. Additional analysis could be completed during future project-level analysis.

SSA-95

See response to comment SSA-80. Additional analysis could be completed during future project-level analysis.

SSA-96

The mechanism suggested for evaporative salt deposit at the southern end of the Salton Sea was previously discussed in comment SSA-72. See response to comments SSA-71 and SSA-76.

SSA-97

The main emissions concerns are for Exposed Playa, not for the Brine Sink. Uncertainty regarding the location, extent, and intensity of emissions from the playa are addressed in the response to comment SSA-14. See also response to comment SSA-16.

SSA-98

See response to comments SSA-97 and SSA-129.

Salton Sea Authority Comments on the Salton Sea Ecosystem Restoration PEIR

AQ-28 Text, Appendix H-3, and Attachment E9, Air Quality Mitigation Measures
Appendix H-3 identifies a protective salt cap as a potential mitigation measure, but the text lumps this measure with the generic "other measures" category in terms of effectiveness. Why did the PEIR fail to investigate the effectivenss of protective the protective salt cap developed at the Agrarian Research pilot site between Niland and Bombay Beach? Why were no portable wind tunnel or PI-SWERL tests conducted on the salt deposit? The Agrarian Research salt crystallization pilot study was completed in 2003, and the resulting salt crust was readily available for investigation and study. The salt cap developed at the Agrarian Research study site is nearly 90% halite. This was another missed opportunity to obtain valuable information from the DRI study. More importantly, because all alternatives include a brine sink, this was a failure to obtain information on emission rates that could be applicable to all alternatives.

AQ-29 Text, Appendix H-3, and Attachment E9, Air Quality Mitigation Measures
Large-scale pumping of highly saline water from the north arm of Great Salt Lake was conducted between April 1987 and June 1989. Over a 26-month period, the West Desert Pumping Project moved 2.7 million acre-feet of highly saline water containing 695 million tons of salt from the Great Salt Lake to the 325,000 acre West Pond (larger than the surface area of the Salton Sea) in the Newfoundland Basin between Great Salt Lake and the Bonneville Salt Flats. Why didn't the PEIR investigate whether the salt deposits produced by evaporation of that water have provided a stable cap on desert soils, or whether those deposits have caused windblown dust problems in the 17 years since the pumping was completed? General information on this project is available at the following website: http://water.utah.gov/construction/gsl/index.htm. (See Great Salt Lake Desert sheet for satellite image, included in Attachment 10)

AQ-30 Attachment E9, Emission potential of salt deposits
The PEIR team should contact the Utah Division of Air Quality, EPA Region 8, BLM Salt Lake Field Office, and other relevant land management agencies to determine the nature and extent of any fugitive dust problems that have developed as a result of lowered water levels in the Great Salt Lake. Similarly, these agencies should be contacted to determine if the permanent salt crust at Bonneville Salt Flats is a source of significant fugitive dust problems and whether the West Desert Pumping Project resulted in fugitive dust problems associated with the salt deposit created in the West Pond (Newfoundland Basin). While it is obvious that dust storms can be generated from almost any desert area with exposed soils, the question is whether dust storms have developed from areas exposed by lowered water levels at Great Salt Lake or from permanent chloride salt crusts such as Bonneville Salt Flats or the salt deposits in Newfoundland Basin.

AQ-31 Attachment E9, Emission potential of salt deposits
The Utah Division of Air Quality and the San Francisco Bay Area Air Quality Management District should have first-hand experience with commercial salt evaporation pond systems. These agencies should be contacted for a regulatory agency perspective on whether sodium chloride salt crystallization ponds are a significant source of fugitive dust emissions, and if so, whether that is the result of general wind erosion conditions or is associated with industrial operations.

AQ-32 Attachment E9, Emission potential of disturbed sediments
The DRI study notes that areas disturbed by ATVs and other off-road vehicles were deliberately avoided in the PI-SWERL sampling program. This represents a missed opportunity to collect data on the indirect emissions effect of sediment disturbance from such uses.

AQ-33 Chapter 10 and Attachments E1, E2, E3, Wind Erosion from exposed areas
The Draft PEIR uses preliminary data from the DRI wind tunnel and PI-SWERL study to estimate fugitive dust from areas that will be exposed by lowered water levels at Salton Sea. The PEIR analyses need to be updated using data from the final DRI report.

AQ-34 Attachment E4, Health Risk estimates
Attachment E4 was prepared prior to the drafting of most of the PEIR. Attachment E4 should be revised to reflect a long-term (10-year or 15-year) average of annual average PM10 levels from

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SSA-100

SSA-101

SSA-102

SSA-103

SSA-104

SSA-105

SSA (cont.)

SSA-99

See response to comment SSA-97. The Desert Research Institute study was of areas representative of playa, so that results would have implications regarding emissions rates from playa. Evidence that the referenced evaporator facility replicates playa conditions was not available at the time of preparation of the Draft PEIR.

SSA-100

See response to comment SSA-87.

SSA-101

See response to comment SSA-88.

SSA-102

Salt brine pools are constructed and managed, and behave differently from the salt crust formation phenomena that occur on a playa. The implied similarities between the physical conditions of a playa and a managed salt pond are therefore not predictable based on what has been seen at Salton Sea and other locations.

SSA-103

The purpose of the Desert Research Institute study was to determine the potential emissions from the Exposed Playa. Other wind tunnel data are available for disturbed vacant lands (See “Estimation of Valley-Wide PM10 Emissions”, James, et. al., UNLV, June 2001). Although these differences are important to understand in a broad sense, all of the Draft PEIR alternatives consider control measures similar to implementation of the four-step air quality mitigation and monitoring plan required under the Transfer Project, the first step of which is the restriction of access to minimize disturbance of Exposed Playa areas.

SSA-104

New data from the Desert Research Institute’s final report would be more appropriately included in project-level analysis. The objective of the air quality assessment was to provide a relative comparison among the alternatives rather than precise estimates of emissions rates. Current analysis includes emissive and nonemissive time periods and provides the level of detail necessary for the programmatic analysis in the Draft PEIR.

SSA (cont.)

SSA-105

The evaluation presented in Appendix E4 of the Draft PEIR provided a preliminary evaluation of constituents of potential concern in sediments and soils sampled at the Salton Sea, discussion of their potential to affect human health, and recommendations for future study. The information was based on results of a limited program to collect and analyze soil and sediment samples from the Salton Sea, and provided a qualitative discussion of potential human health impacts based on assumed ambient concentrations of particulate matter and constituents of potential concern. Refinement of this health impact analysis, including the development of emissions inventories for potential hazardous air pollutants, or the use of dispersion modeling, or scaling of current ambient concentrations to estimate future ambient concentrations and human exposure rates, would have been premature. Only limited information was available on soil and sediment composition, and this, combined with other data gaps as identified in the Draft PEIR, limited the feasible level of analysis for potential future air quality conditions at the Salton Sea under the various alternatives. However, additional studies could be conducted during project-level analysis.

relevant stations (Indio, Niland, Westmorland, Brawley, and El Centro) rather than the arbitrary assumption of 100 micrograms per cubic meter annual average PM10 exposure over 70 years. The 10-year (1996 - 2005) mean PM10 level for Indio, Niland, Westmorland, Brawley, and El Centro is 44 micrograms per cubic meter. Thus, health risk values computed in Attachment E4 should be reduced by 56%. (See PM10 data sheet, included in Attachment 10)

AQ-35 Text and Appendices, Comparison of Salton Sea to Owens Lake
Appendix H-3 acknowledges (page H3-6) that "Owens Lake emissions are considered to result from an unusual combination of climatic, geochemical, and watershed conditions, a number of which would not be replicated at Salton Sea." Why the does the PEIR focus exclusively on Owens Lake as a point of comparison? The PEIR should include a comparison to Great Salt Lake and the major salt flats in Utah as an additional point of comparison. Salton Sea falls between Great Salt Lake and Owens Lake in terms of water chemistry, and is more like Great Salt Lake than Owens Lake in many respects. See also Comments 116 and 118.

AQ-36 Text and Appendices, Impact Analyses
The Final PEIR needs to be revised to reflect current designs and assumptions of Alternatives 4 and 7, as well as refinements to other alternatives that may be warranted by public review of the Draft PEIR. Otherwise, the PEIR will fail to meet its basic goal of providing a sound basis for selecting a preferred alternative.

AQ-37 Text and Appendices, Impact Analyses
Given current APCD regulations concerning fugitive dust, the QSA 4-step process, and the adaptive management assumption being made in the PEIR, it seems unreasonable to assume that any large area of exposed lakebed sediments at Salton Sea would be both emissive and uncontrolled under any alternative unless the landowner is exempt from APCD regulation.

AQ-38 Text and Appendices, Impact Analyses
Data for 2002 as presented in Table E3-3 in Attachment E3 shows only 19 hours of wind speed above the wind erosion threshold velocity during months with stable playa conditions and 180 hours of wind speed above the lower wind erosion threshold velocity during months with unstable playa condition. To put this data in better perspective, what was the largest number of hours in a single day when wind speeds exceeded the threshold velocity for wind erosion? And what would the daily wind erosion estimate (pounds per acre per day) be for that day? The PEIR should also provide an assessment of whether that condition would be likely to cause violations of the state or federal 24-hour PM10 standards.

AQ-39 Text and Appendices, Impact Analyses
Further clarification of the potential for wind erosion at Salton Sea to cause violations of ambient air quality standards should be added to the PEIR by performing+E56 a simple dispersion modeling analysis for a generic area of exposed lakebed sediments (for example, a generic 500 acre area). Either ISC3, CALINE3, or CALINE4 would be suitable for this analysis. For simplicity, two meteorological scenarios could be analyzed using 2002 data from Niland: the 24-hour day with the highest recorded wind speed, and the 24-hour day with the greatest number of hours over the wind erosion threshold. Alternatively, the analysis could model the day with maximum predicted wind erosion emissions. Separate runs should be performed for unmitigated conditions and for conditions with placeholder mitigation measures in place. The dispersion modeling analysis would provide information on approximate downwind 24-hour average PM10 concentrations at various distances from the generic source area. (See supplemental discussion below, included in Attachment 10)

Supplemental Discussion, Comment AQ-39, regarding Text and Appendices, Impact Analyses
The CALINE3 and CALINE4 models have the advantage of simple data input procedures and the advantage of being designed for ground-level emission sources. However, they require manual input of particle settling and deposition rates and separate runs for each

SSA-105 cont.

SSA-106

SSA-107

SSA-108

SSA-109

SSA-110

SSA (cont.)

SSA-106

The comparison to Owens Lake in the Draft PEIR was a comparison of similar wind tunnel studies and observations of playa crusts, not of salt chemistry. Crust strength measurements are directly applicable to the tool (MacDougall Method) used to calculate playa emissions. Actual data from Salton Sea shore was used in the analysis, not the Owens Lake data. See response to comment SSA-87.

SSA-107

See response to comment SSA-1

SSA-108

See response to comments SSA-13. At the Salton Sea Air Quality Working Group meeting on March 14, 2006, and at the Salton Sea Advisory Committee meeting on March 16, 2006, playa stabilization approaches were discussed. The potential extent of Emissive Playa was discussed. It was the consensus of the Committee that, for planning future dust control measures, it would be prudent to assume that up to 70 percent of the Exposed Playa would become emissive. Alternative 7 was analyzed on the basis of the information provided by the SSA in March 2006, which did not include any long term plan for Air Quality Management for some portions of the Exposed Playa.

SSA-109

The threshold wind velocity was exceeded for 13 hours on March 16, 2002, though maximum winds were not as high on this day as on other days. The emissions rate is assumed to increase as the wind speed increases, so predicting a maximum daily emissions rate would be speculative. The daily emissions would depend on the stability of the playa crust, the number of hours the winds exceed the threshold velocity, the speed of the winds when the winds exceed the threshold, and the exact location of the Exposed Playa acreage in the wind field. This type of analysis would be more appropriately conducted during future project-level analysis when additional details would be available.

SSA (cont.)

SSA-110

Air quality dispersion modeling was not conducted as part of the Draft PEIR air quality impact analysis. Dispersion modeling of regional ozone-related impacts was not technically feasible, and modeling of particulate matter impacts on ambient air quality and standards compliance was not deemed necessary for comparison of alternatives in the Draft PEIR. Dispersion modeling would have been premature due to the limited information on future particulate matter emissions rates, potential mitigation measures, locations of sensitive receptors, and potential future air quality conditions at the Salton Sea under the various alternatives. If feasible, a project-level dispersion modeling analysis could be conducted during project-level analysis to define potential impacts from a specific set of conditions, for a defined geographic area. The information needed to refine and define important information on particulate matter characteristics, mitigation, and impacts could also be further evaluated at that time.

particle size class. The ISC3 model has more complicated data input procedures, but provides for internal calculation of particle settling and deposition rates. A simple 5-category particle size spectrum could be used to improve the realism of the analysis. Particle size distributions must recognize that the "10" in PM_{10} is not a size limit; it is the 50% mass collection efficiency size for certified sampling equipment. PM_{10} samplers collect particles up to about 50 microns aerodynamic equivalent diameter.

A simple 5-category particle size class distribution for silty loam soils could be used for the modeling analysis: Class 1: 0.01 - 2 microns, 1.26 microns MMD; Class 2: 2 - 5 microns, 3.70 microns MMD; Class 3: 5 - 10 microns, 7.77 microns MMD; Class 4: 10 - 20 microns, 15.54 microns MMD; Class 5: 20 - 50 microns, 37.02 microns MMD. A generic particle density would be 2.2 grams per cubic centime+E25ter. For CALINE3 or CALINE4 use, the following settling and deposition rates (centimeters per second) would be appropriate: Class 1: settling = 0.01031; deposition = 0.00020. Class 2: settling = 0.08874; deposition = 0.00375. Class 3 = 0.39064; deposition = 0.04662. Class 4: settling = 1.56255; deposition = 0.42645. Class 5: settling = 8.87370; deposition = 4.20773. A generic mass distribution among size classes might be: Class 1 = 15%; Class 2 = 15%; Class 3 = 25%; Class 4 = 25%; Class 5 = 20%. Silt-sized particles are more easily suspended than are clay or sand sized particles.

AQ-40 Table 10-1, PM10 entry
EPA recently rescinded the annual average national ambient air quality standard for PM10 and revised the 24-hour PM2.5 standard from 65 micrograms per cubic meter to 35 micrograms per cubic meter. **SSA-111**

AQ-41 Page 10-5, Paragraph 6
De minimis thresholds apply to actions or portions of actions within a single nonattainment or maintenance area. If a proposed action encompasses more than one nonattainment or maintenance area, then separate de minimis thresholds will apply to those portions of the action in different nonattainment or maintenance areas. **SSA-112**

AQ-42 Page 10-7, Paragraph 5
In addition to pollutant transport from Mexico, the Salton Sea Air Basin (especially the northern portion) is affected by pollutant transport from the South Coast Air Basin. **SSA-113**

AQ-43 Page 10-17 and 10-18, Tables 10-3 and 10-4
Selecting maximum data values from multiple stations can yield an inaccurate assessment of trends in air quality conditions. Tables 10-3 and 10-4 should be revised to summarize data for individual stations most relevant to the Salton Sea (Indio in Riverside County; Niland, Westmorland, Brawley and El Centro in Imperial County). Ozone and PM10 data from Palm Springs do not seem to be representative of conditions closer to Salton Sea. It also would be useful to extend the data period back to 1996 or earlier to provide at least a 10-year summary for trend evaluation. In addition to providing a better indication of trends, data for individual stations provides information on spatial patterns that cannot be determined from lumped station data. Because there are no significant air quality issues related to ambient standards for NO_2, SO_2, or CO near the Salton Sea, lumped data are acceptable for Table 10-5 on page 10-19. Data through 2005 are available on the CARB website (www.arb.ca.gov/adam/welcome.html). (See PM10 and Ozone data sheets, included in Attachment 10) **SSA-114**

AQ-44 Page 10-17 and 10-18, Text associated with Tables 10-3 and 10-4
The text should discuss the trends and geograp+E67hic patterns illustrated by the individual station data in revised Tables 10-3 and 10-4. (See supplemental discussion below) **SSA-115**

Supplemental Discussion, Comment AQ-44, regarding Page 10-17 and 10-18, Text associated with Tables 10-3 and 10-4

SSA (cont.)

SSA-111

Although the USEPA has made changes to the ambient air quality standards for PM10 and PM2.5, the ambient air quality standards presented in Table 10-1 were current at the time of preparation of the Draft PEIR (October 2006). The revised ambient air quality standards became effective on December 17, 2006. The most current ambient air quality standards could be used in future project-level analysis.

SSA-112

A general conformity analysis, including comparison of project-related emissions to the appropriate de minimis thresholds, could be included as part of the project-level analysis for any federal actions associated with implementing restoration actions at the Salton Sea. The analysis and the de minimis thresholds applied would depend on the attainment status of the area or areas where the federal action would occur.

SSA-113

The last sentence on page 10-7 of the Draft PEIR has been revised to state, “Agricultural operations and transport of pollutants also contribute to air quality issues in the area.”

SSA-114

The data presented provide a summary of the maximum concentrations of pollutants that contribute to the overall air quality of the region and are tabulated to show the regional trend. Reformatting the data, by revising the current multiple station summary tables to tables that summarize data from individual monitoring stations, would not affect the conclusions ultimately reached regarding the relative comparisons among alternatives.

The Palm Springs monitoring station is located in the northern end of the Salton Sea Air Basin. As indicated by the Indio monitoring station wind rose presented in Figure 10-2 of the Draft PEIR, the annual wind in that area primarily flows from the northwest region into the basin. Directly northwest of the Indio station is the Palm Springs monitoring station. Since the prevailing wind is from the direction of the Palm Springs station and the station is located in the northern region of the Salton Sea Air Basin, the Palm Springs station is representative of the northern region of the air basin. At the time of preparation of the Draft PEIR, year 2000 ozone data were not available on the California Air Resources Board website for the El Centro-9th Street, Westmoreland-W 1st Street, or Niland-English Road stations. These additional data could be included in future project-level analysis.

SSA-115

See response to comment SSA-114.

The data summarized on the supplemental PM10 and Ozone data sheets indicates that the Palm Springs station is not representative of conditions in the vicinity of Salton Sea. In addition, the information presented in the supplemental ozone data sheet is suggestive of a dual pollutant transport pattern: transport from the South Coast Air Basin affecting the Riverside County portion of the Salton Sea Air Basin (Palm Springs and Indio stations), and ozone (or more likely, ozone precursor) transport affecting the Imperial County portion of the Salton Sea Air Basin. Although peak ozone levels at Westmorland sometimes exceed those at El Centro or Indio, Indio and El Centro have more frequent exceedances of ozone standards than does Westmorland. The Niland station has the lowest ozone levels and fewest ozone exceedances of any station in the Salton Sea Air Basin. (See PM10 and Ozone data sheets, included in Attachment 10)

Information presented on the supplemental PM10 data sheet suggests that local PM10 sources are more important than inter-basin pollutant transport in terms of annual average PM10 levels. Again, it is clear that the Palm Springs station is not representative of conditions around the Salton Sea. There is not a strong geographic pattern to annual average PM10 levels in the Salton Sea Air Basin. The Indio and Westmorland stations tend to have more frequent exceedances of the federal 24-hour PM10 standard than do other stations representative of conditions around the Salton Sea. Over the latest 10 years of data, annual average PM10 levels have ranged from 49.7 micrograms per cubic meter at Indio to 36.4 micrograms per cubic meter at Niland. The Niland station has the lowest annual average PM10 levels and the fewest exceedances of 24-hour standards for stations that might be considered representative of conditions at the Salton Sea.

AQ-45 Page 10-18, Table 10-4
Although EPA has rescinded the federal annual average standard for PM10, that data should be retained in the revised Table 10-4. It is directly relevant to health risk assessments associated with particulate matter, such as the evaluation in Appendix E, Attachment E4.

AQ-46 Page 10-18, Table 10-4
The text should briefly discuss the source areas and causes of the unusually high 24-hour PM10 events that occurred in 2001 and 2003. Were these events evaluated under the EPA exceptional event policy?

AQ-47 Page 10-18, Table 10-4
The footnotes to Table 10-4 should define EPDC (expected peak day concentration).

AQ-48 Page 10-19, Header above Paragraph 1
The header should refer to Nitrogen Oxides and Sulfur Oxides, not Nitrites and Sulfites.

AQ-49 Page 10-19, Paragraph 1 and footnotes to Table 10-5
The text and footnotes to Table 10-5 should clarify that CO data from Calexico have not been used for Table 10-5. CO data from Calexico periodically exceed both state and federal standards. Cross-border traffic is presumed to be a major contributor to this situation, and that condition is not representative conditions at the Salton Sea.

AQ-50 Page 10-26, Paragraphs 7 and 8
The construction impact assessment methodology needs to be revised to be consistent with reasonable construction procedures, especially for alternatives that involve large quantities of rock and gravel hauling. Construction assumptions should recognize the material transport methods identified as most viable in Appendix H-6. See also Comments 2 and 3.

AQ-51 Page 10-27, Paragraph 8
This discussion of soft versus hard crusts in this paragraph applies only to crusting of clay soils or to thin evaporative salt crusts dominated by efflorescent salts such as sodium sulfate or sodium carbonate salts. It does not apply to chloride salts, and thus is not applicable to areas subject to

SSA (cont.)

SSA-115 cont.

SSA-116

The annual average PM10 concentration will be retained in Table 10-4 on page 10-18 of the Draft PEIR.

SSA-117

Monitoring data are published on the California Air Resources Board website, and are available as a record of the background air conditions over various time frames. Additional analysis regarding exceptionally high 24-hour PM10 events would be more appropriately considered during project-level analysis. Because of the programmatic level of this analysis, these events were not evaluated under the EPA's exceptional event policy.

SSA-118

A footnote defining EPDC as the Expected Peak Day Concentration has been added to Table 10-4 on page 10-18 of the Draft PEIR.

SSA-119

SSA-116

The section heading on page 10-19 of the Draft PEIR has been corrected from 'Carbon Monoxide, Nitrites (as NO2), and Sulfites (as SO2)' to 'Carbon Monoxide, Nitrogen Oxides (as NO2), and Sulfur Oxides (as SO2)'.

SSA-117

SSA-120

SSA-118

A footnote explaining why the Calexico monitoring station was not representative of the CO background data in the Salton Sea vicinity was added to Table 10-5 on page 10-19 of the Draft PEIR. The footnote for the CO concentrations in Table 10-5 reads: CO data for Imperial County is only from the El Centro – 9th Street Station. Data from the Calexico monitoring station has not been included. CO data from Calexico is heavily influenced by cross-boarder traffic and those conditions are not representative of conditions at the Salton Sea.

SSA-119

SSA-120

SSA-121

SSA-121

See response to comments SSA-68 and SSA-70.

SSA-122

SSA-122

Wind tunnel studies of NaCl crusts could be incorporated into future project-level analysis, if NaCl crusts are proposed as a possible dust control measure. See response to comment SSA-86.

direct salt precipitation from the brine sink features of the various alternatives. Sodium chloride crusts may soften when saturated, but they remain non-emissive and become hard when they dry.

SSA-122 cont.

AQ-52 Page 10-28, Paragraphs 1, 2, and 3
This discussion applies only to crusting of clay soils or to thin evaporative salt crusts dominated by efflorescent salts such as sodium sulfate or sodium carbonate salts. It does not apply to chloride salt crusts, which were not tested in the DRI PI-SWERL study, even though a chloride salt crust was available for testing at the Agrarian Research pilot project site. Thus, the seasonal distinctions discussed here are not applicable to areas subject to direct salt precipitation from the brine sink features of the various alternatives.

SSA-123

AQ-53 Page 10-28, Paragraph 4
What was the basis for selecting 2002 as the data year for the wind speed distribution analysis?

SSA-124

AQ-54 Page 10-28 and Page 10-29, Paragraphs 6 and 7 on page 10-28, Paragraph 1 on page 10-29
The methodology for evaluating fugitive dust emissions from exposed lakebed sediments is generally appropriate, but needs to be revised to distinguish between those lakebed areas which are likely to have a precipitated salt deposit and those that will be free of such deposits. Areas likely to be covered by salt deposits precipitated from brine sink waters will have very different potential emissions than will those areas free of such deposits. See also Comments 10 and 11.

SSA-125

AQ-55 Page 10-29, Paragraphs 1 and 2
At the November air quality working group meeting, the California Air Resources Board raised concerns that the methodology used to estimate fugitive dust from exposed lakebed areas resulted in no emissions from areas at the north end of the Salton Sea. A suggestion was made to change the assumed threshold velocities for wind erosion. The assumed threshold velocities used in the PEIR are reasonable, and are consistent with both literature data and the PI-SWERL data. It would be more appropriate to repeat the wind speed distribution data analysis using data from a meteorological station closer to the Salton Sea than Indio. Based on Figure 10-4, CIMIS station 136 (Oasis) would appear to be the best candidate. Data from the CIMIS station would have to be extrapolated to a 10-meter height. Such extrapolations can be slightly complicated, but even an approximate extrapolation should be tested to see if it demonstrates wind speeds above the assumed threshold velocities. (See supplemental discussion below)

SSA-126

Supplemental Discussion, Comment AQ-55, regarding Page 10-29, Paragraphs 1 and 2
One relatively simple method to extrapolate wind speeds from the 2-meter CIMIS station height to a conventional 10-meter height is to first categorize the hourly data values according to assumed atmospheric stability class. If any of the 10-meter stations in the Salton Sea Air Basin provide hourly estimates of stability class conditions, then that data could be used to allow a preliminary extrapolation. Given a 2-meter wind speed and a reasonable estimate of stability class, conventional stationary source dispersion modeling power law exponents can be applied to generate a reasonable first-cut extrapolation. Conventional power law exponents for Rural conditions are: Stability Class A = 0.07; Stability Class B = 0.07; Stability Class C = 0.10; Stability Class D = 0.15; Stability Class E = 0.35; Stability Class F = 0.55. Power Law extrapolation: Speed 2 = Speed 1 * (Height 2/Height1)^P

If none of the meteorological stations in the Salton Sea Air Basin provide estimates of hourly stability class conditions, then stability class estimates can be made using any of three general methods. Pasquill stability estimates can be based on wind speed, generalized daytime solar intensity category, and nighttime cloud cover conditions. An alternative approach uses wind speed categories and the standard deviation of horizontal wind speed fluctuation data (sigma theta) for early morning, mid-day, evening, and

24

SSA (cont.)

SSA-123

The best available scientific data and information were used in the preparation of the Draft PEIR. More detailed salt crust emission studies and pilot projects could be conducted during project-level analysis. See response to comments SSA-86 and SSA-184.

SSA-124

The meteorological data sets selected for use in the Draft PEIR were based on several factors. The data must have been quality assured data collected at 10-meter height, and accepted by the regulating air district. 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 meeting all of these criteria at the time of the preparation of the Draft PEIR were the Indio-Jackson and Niland data from the year 2002.

SSA-125

There is still uncertainty regarding exactly what will happen as the Salton Sea recedes. The best data and information available were used in the preparation of the Draft PEIR. Specific exposed areas were not identified in the Draft PEIR for each alternative, and in any case, no reliable map exists for future playa conditions. Site-specific wind tunnel tests could not, therefore, be matched to each alternative. Consequently, the average values were used to develop a tool for comparing among alternatives. See response to comment SSA-86.

SSA-126

Methods to correct the 2-meter CIMIS meteorological data to better represent data that might be collected at 10 meters were discussed by the Salton Sea Air Quality Working Group. Due to the topography and meteorology of the area, it was decided to not try to use adjustment calculations, but rather to co-locate two 10-meter towers with existing 2-meter CIMIS towers, to see if relationships or trends for the 2-meter and 10-meter data could be documented. The decision to proceed in this manner was made during the Air Quality Working Group meetings in September and November 2005, on the basis of input from California Air Resources Board and USEPA meteorological and modeling experts. Data collected before preparation of the Draft PEIR were not sufficient to develop a correlation on which to base this correction.

nighttime periods to estimate stability class categories. A hybrid approach can also be used combining mid-day solar intensity data (watts per square meter) and sigma theta data for morning, evening, and nighttime hours. There is nothing absolutely sacred about the specific wind speed categories used by different references. If it seems appropriate, wind speed categories can be adjusted somewhat. The wind speed categories used by Hanna et al. 1982 and Zannetti 1990 seem excessively broad.

SSA-126 cont.

References for stability class estimation methods:

Beer, Tom. 1990. Applied Environmetrics Meteorological Tables. Applied Environmentrics. Balwyn, Victoria. Australia.

Hanna, S. R., G. A. Briggs, and R. P. Hosker, Jr. 1982. Handbook on Atmospheric Diffusion. (DOE/TIC-11223.) National Technical Information Service. Springfield, VA.

Turner, D. Bruce. 1994. Workbook of Atmospheric Dispersion Estimates. An Introduction to Dispersion Modeling. Second Edition. CRC Press. Boca Raton, FL.

US Environmental Protection Agency. 1995. User's Guide for the Industrial Source Complex (ISC3) Dispersion Models. Volume I: User Instructions. (EPA-454/B-95-003a). Office of Air Quality Planning and Standards. Research Triangle Park, NC.

Zannetti, P. 1990. Air Pollution Modeling: Theories, Computational Methods and Available Software. Van Nostrand Reinhold. New York, NY.

AQ-56 Page 10-29, Paragraphs 1 and 2
Figure D2 in Appendix D shows more CIMIS stations than are shown in Figure 10-4. If stations 141 (Mecca) or 154 (Salton Sea North) have data from an appropriate period and show higher maximum wind speeds than does station 136 (Oasis), then they might be a more appropriate choice as an alternative to the Indio wind speed data.

SSA-127

AQ-57 Page 10-29, Paragraph 4
The analysis of fugitive dust from exposed areas under Alternative 7 needs to be revised to reflect the air quality mitigation features incorporated into the basic design of this alternative. Alternative 7 would not have "large areas of Exposed Playa without long term control measures." The protective salt cap feature of this alternative will provide complete protection from wind erosion for the covered area.

SSA-128

AQ-58 Page 10-29, Paragraph 6
What is the basis for assuming that water-efficient vegetation cover will provide 95% control of fugitive dust emissions? Does the effectiveness of fugitive dust control by vegetation decline at high wind speeds? What is the basis for assuming that a protective salt flat will have only an 85% control effectiveness? If there is no exposure of the underlying playa sediments and the salt deposit is primarily halite, then there will be no wind erosion and the control effectiveness will be 100%.

SSA-129

AQ-59 Page 10-33, Paragraph 2
The text above Table 10-12 should refer to projects in the SCAQMD portion of the Salton Sea Air Basin.

SSA-130

AQ-60 Page 10-36, Table 10-14, Assumption 3
Emission rates for diesel haul trucks should be revised as necessary to reflect the use of large capacity off-road haul trucks for those alternatives where that transport method appears to be the most viable, either as the main transport mechanism or in conjunction with rail or conveyor systems. See also Comments 2 and 3.

SSA-131

SSA (cont.)

SSA-127

See response to comment SSA-126. Data from these stations could be included in future project-level analysis.

SSA-128

See response to comment SSA-13. The air quality assumptions used in the Draft PEIR were made based on the data available as of March 2006. The assumptions helped estimate the potential emissions for the alternatives and helped determine the requirements for air quality management. These assumptions could change during project-level analysis based on new information available.

SSA-129

The control efficiency estimates for water efficient vegetation are based on a conservative application of data from the observed performance of vegetation at Owens Lake. At that site, which is subjected to a wide range of wind speeds and climatic conditions, 10 percent ground cover by vegetation was shown to practically halt sand motion and resultant playa emissions (page H3-17 and H3-19 of the Draft PEIR). Therefore, assuming that 95 percent control efficiency (averaged across all wind speeds, as required to calculate an average dust control efficiency) would be achieved by 20 percent vegetative cover on the Salton playa is not unreasonable. It is this average efficiency that has regulatory relevance. Parsing efficiency according to wind speed categories is outside of the scope of the Draft PEIR and is not required by air quality regulatory agencies.

An estimate of 100 percent control for an engineered salt crust is based on assumptions that need to be confirmed during field testing. As a general rule, 100 percent control efficiencies are not employed by air quality regulatory agencies, due to the difficulty of attaining these levels in the real world. See response to comment SSA-16.

SSA (cont.)

SSA-129
cont.

At the Salton Sea Air Quality Working Group meeting on March 14, 2006, playa stabilization approaches were discussed. The group consensus regarding these technologies was as follows:

> The dust control "toolbox" will remain open, with active research and development and an adaptive management approach taken to control playa emissions as needed. The group also indicated the need to allocate 1 foot of water per acre over 50 percent of the exposed area for dust control, and to retain vegetation as one of the water-using measures in the toolbox, without specification of irrigation technology. Water efficient vegetation, as described in the PEIR, was selected as a reasonable "placeholder" approach for planning purposes, due to its proven effectiveness for stabilizing large playa areas, while making efficient use of water.

Minutes from work group meetings are available on the program website.

SSA-130

The sentence on page 10-33 above Table 10-12 was revised to include the text "SCAQMD portion of the Salton Sea Air Basin."

SSA-131

See response to comments SSA-12, SSA-68, and SSA-70. Alternative transportation methods could be considered during future project-level analysis.

Salton Sea Authority Comments on the Salton Sea Ecosystem Restoration PEIR

AQ-61 Page 10-36, Table 10-14, Assumption 4
Table 10-14 should identify the assumed capacity of haul trucks (20 cy noted in Attachment E2). Why didn't the PEIR assume the use of construction methods which Appendix H-6 characterizes as "probably the most viable options" for transporting rock and gravel from quarry sites?

SSA-132

AQ-62 Page 10-36, Table 10-14, Assumption 6, second bullet item
What vegetation cover density is required to achieve the postulated 95% control effectiveness? What is the basis for assuming 95% control at this cover density? Has this effectiveness been proven at the cover density and water application rate assumed for the PEIR? Does the control effectiveness factor for vegetation cover remain constant at all wind speeds? Appendix H-3 does not clearly address these questions, especially for situations such as the Salton Sea where blowing sand is not the driving force for fugitive dust emissions.

SSA-133

AQ-63 Page 10-37, Following Table 10-14
The PEIR should include a brief discussion of additional mitigation measures and alternative construction technologies (other than those incorporated into the emissions analyses) that could significantly reduce emissions from construction activities. Once the PEIR is revised to reflect reasonable material transport methods such as those identified in Appendix H-6, the list of other currently available or expected future mitigation measures should be reasonably limited. The use protective salt caps should be identified as a potential additional mitigation measure for any alternative where design features make this measure practical.

SSA-134

AQ-64 Pages 10-39 through 10-49, Table 10-15
Table 10-15 needs to be updated to reflect revised emissions analyses consistent with the other comments concerning impact assessment methods and analyses.

SSA-135

AQ-65 Pages 10-53 through 10-61, Paragraphs where emission estimates are presented
Construction emissions analyses for the No Action Alternative probably do not need much revision. Fugitive dust emissions analyses for exposed lakebed areas under the No Action Alternative need to be revised to discriminate between lakebed sediment areas exposed before the Salton Sea reaches saturation for chloride salts and lakebed sediment areas that are likely to be capped by direct precipitation of chloride salts after Salton Sea waters reach saturation. Based only on salinity estimates, it appears that the brine sink would not reach saturation by the end of Phase IV under No Action - CEQA Conditions, but would reach saturation before the end of Phase IV under No Action - Variability Conditions.

SSA-136

AQ-66 Pages 10-55, 10-56, and 10-57, Figures 10-5, 10-6, and 10-7
These figures need to be updated to reflect revised emissions analyses consistent with the other comments concerning impact assessment methods and analyses.

SSA-137

AQ-67 Pages 10-63 through 10-65, Paragraphs where emission estimates are presented
Construction emissions analyses for the Alternative 1 probably do not need much revision. Fugitive dust emissions analyses for exposed lakebed areas under Alternative 1 need to be revised to discriminate between lakebed sediment areas exposed before the brine sink reaches saturation for chloride salts and lakebed sediment areas that are likely to be capped by direct precipitation of chloride salts after brine sink waters reach saturation. Based on projected salinity levels, it appears that the brine sink would reach saturation either near the end of Phase III or some time in Phase IV.

SSA-138

AQ-68 Pages 10-65 through 10-68, Paragraphs where emission estimates are presented
Construction emissions analyses for the Alternative 2 probably do not need much revi+E86sion. Fugitive dust emissions analyses for exposed lakebed areas under Alternative 2 need to be revised to discriminate between lakebed sediment areas exposed before the brine sink reaches saturation for chloride salts and lakebed sediment areas that are likely to be capped by direct precipitation of chloride salts after brine sink waters reach saturation. Based on projected salinity levels, it appears that the brine sink would reach saturation during Phase III.

SSA-139

26

SSA (cont.)

SSA-132

The following sentence was added to the fourth bullet of Table 10-14, “The trucks transporting rock and gravel were assumed to have a 20 cubic yard capacity.” See also response to comment SSA-68.

SSA-133

See response to comment SSA-129. Saltation (wind-driven, bouncing sand) is the driving force for fugitive dust emissions processes on most land surfaces of the type discussed. It is not clear why the commenter indicates this is not the case at Salton Sea. There is no evidence provided that saltation will not be a driver for emissions at Salton Sea, so control of sand motion and surface stabilization remain part of many of the emissions control options in the “tool box.” If sand motion proves to be poorly correlated with playa emissions at Salton Sea, an alternative means of controlling emissions could be employed.

Emissions mechanisms and control efficiency estimates for various dust control approaches should be refined for Salton Sea playa as part of future project-level analysis.

SSA-134

Identification and use of mitigation measures and alternative construction technologies for construction could be included as part of project-level analysis.

SSA-135

See responses to comments SSA-129 and SSA-134.

SSA-136

The air quality assumptions used in the Draft PEIR were made based on data available as of March 2006, and included assumptions agreed to by the Advisory Committee in March 2006. The assumptions helped determine the requirements for air quality management and potential emissions for the alternatives. These assumptions could change during project-level analysis based on new information that becomes available.

SSA (cont.)

SSA-137

See response to comment SSA–136. The figures in Chapter 10 of the Draft PEIR were presented for illustrative purposes to assist the reader in understanding the relative magnitude of construction and operation emissions when comparing alternatives. The information in these figures is appropriate for the programmatic level assessment and conveying the relative magnitude of emissions associated with each alternative. Refinements in the emission estimates could be completed as part of project-level analysis.

SSA-138

See response to comments SSA-136 and SSA-137.

SSA-139

See response to comments SSA-136 and SSA-137.

AQ-69 Pages 10-68 through 10-71, Paragraphs where emission estimates are presented Construction emissions analyses for the Alternative 3 need to be revised to reflect reasonable construction procedures and material transport methods such as those discussed in Appendix H-6. Fugitive dust emissions analyses for exposed lakebed areas under Alternative 3 need to be revised to discriminate between lakebed sediment areas exposed before the brine sink reaches saturation for chloride salts and lakebed sediment areas that are likely to be capped by direct precipitation of chloride salts after brine sink waters reach saturation. Based on projected salinity levels, it appears that the brine sink would reach saturation during Phase II.

AQ-70 Pages 10-71 through 10-73, Paragraphs where emission estimates are presented Construction emissions analyses for the Alternative 4 probably do not need much revision. Fugitive dust emissions analyses for exposed lakebed areas under Alternative 4 need to be revised to discriminate between lakebed sediment areas exposed before the brine sink reaches saturation for chloride salts and lakebed sediment areas that are likely to be capped by direct precipitation of chloride salts after brine sink waters reach saturation. Based on projected salinity levels, it appears that the brine sink would reach saturation by the end of Phase II.

AQ-71 Pages 10-73 through 10-76, Paragraphs where emission estimates are presented Construction emissions analyses for the Alternative 5 need to be revised to reflect reasonable construction procedures and material transport methods such as those discussed in Appendix H-6. Fugitive dust emissions analyses for exposed lakebed areas under Alternative 5 need to be revised to discriminate between lakebed sediment areas exposed before the brine sink reaches saturation for chloride salts and lakebed sediment areas that are likely to be capped by direct precipitation of chloride salts after brine sink waters reach saturation. Based on projected salinity levels, it appears that the brine sink would reach saturation during Phase II.

AQ-72 Pages 10-76 through 10-79, Paragraphs where emission estimates are presented Construction emissions analyses for the Alternative 6 need to be revised to reflect reasonable construction procedures and material transport methods such as those discussed in Appendix H-6. Fugitive dust emissions analyses for exposed lakebed areas under Alternative 6 need to be revised to discriminate between lakebed sediment areas exposed before the brine sink reaches saturation for chloride salts and lakebed sediment areas that are likely to be capped by direct precipitation of chloride salts after brine sink waters reach saturation. Based on projected salinity levels, it appears that the brine sink would reach saturation during Phase II.

AQ-73 Pages 10-79 through 10-82, Paragraphs where emission estimates are presented Construction emissions analyses for the Alternative 7 need to be revised to reflect reasonable construction procedures and material transport methods such as those discussed in Appendix H-6. Fugitive dust emissions analyses for exposed lakebed areas under Alternative 7 need to be revised to discriminate between lakebed sediment areas exposed without a protective salt cap and lakebed sediment areas that will be protected by a salt cap. Based on projected salinity levels, it appears that the brine sink would reach saturation during Phase II.

AQ-74 Pages 10-82 through 10-85, Paragraphs where emission estimates are presented Construction emissions analyses for the Alternative 8 need to be revised to reflect reasonable construction procedures and material transport methods such as those discussed in Appendix H-6. Fugitive dust emissions analyses for exposed lakebed areas under Alternative 8 need to be revised to discriminate between lakebed sediment areas exposed before the brine sink reaches saturation for chloride salts and lakebed sediment areas that are likely to be capped by direct precipitation of chloride salts after brine sink waters reach saturation. Based on projected salinity levels, it appears that the brine sink would reach saturation during Phase II.

AQ-75 Page 10-85 and Page 10-86, Paragraph 1 on page 10-85 and Paragraph 2 on page 10-86 A realistic analysis of construction emissions cannot be deferred to the project-specific EIR, since relative construction emission estimates as presented in the PEIR are being considered in the

SSA-139 cont.

SSA-140

SSA (cont.)

SSA-140

See response to comment SSA-67. Different methods for construction and material transport could be considered during future project-level analysis.

process of selecting a preferred alternative. It is essential that the comparison of emissions associated with the various alternatives be fair, objective, and reasonable. A reasonable comparison must consider those features of the different alternatives that are likely to result in different construction methods and material transport methods than those assumed in the draft PEIR analyses. **SSA-140 cont.**

AQ-76 Attachment E1, Tables
The tables in Attachment E1 will need to be updated to reflect revised emissions analyses consistent with the other comments concerning impact assessment methods and analyses. **SSA-141**

AQ-77 Attachment E2, Tables and text
The text and tables in Attachment E2 will need to be updated to reflect revised emissions analyses consistent with the other comments concerning impact assessment methods and analyses. **SSA-142**

AQ-78 Attachment E2, Table E2-7 and associated text
Different conformity *de minimis* thresholds apply in the Riverside County and Imperial County portions of the study area. The evaluation of net emission increases compared to No Action should distinguish between Riverside County and Imperial County emissions. **SSA-143**

AQ-79 Attachment E2, Pages after Table E2-7
Tables E2-8 through E2-13 are missing from the PDF file for Appendix E (both the CD and the DWR website). **SSA-144**

AQ-80 Attachment E3, Text and tables
Attachment E3 should be revised to incorporate the results from the final DRI study report. **SSA-145**

AQ-81 Attachment E3, Pages E3-2 and E3-7, Paragraph 2 on page E3-2, Paragraph 7 on page E3-7
What was the basis for selecting 2002 as the meteorological data year? If a change is made in the meteorological data set or station selected to represent the northern portion of the Salton Sea (*see Comment 55*), then the discussion in Attachment E3 will need to be modified. **SSA-146**

AQ-82 Attachment E3, Page E3-4, Stable versus Unstable Crust
The emissions analyses need to separate sodium chloride crust areas from other types of crusts. Areas covered with sodium chloride crusts will have virtually no wind erosion emissions in any season. The DRI data for "stable crust" areas are not representative of areas covered with a sodium chloride salt crust. DRI failed to make PI-SWERL measurements at stable sodium chloride crust locations at the Salton Sea. (See supplemental discussion for Comment 55) **SSA-147**

AQ-83 Attachment E3, Page E3-5, Table E3-3
This table should be updated to reflect data from the final DRI report, any revisions to the wind speed frequency analysis for the northern portion of the Salton Sea, and distinction between areas expected to have a sodium chloride salt crust and other types of exposed sediments. **SSA-148**

AQ-84 Attachment E3, Page E3-6, Paragraph 4
This discussion applies only to efflorescent salt crusts. It does not apply to halite salt crusts, which do not undergo mineralogical phase changes in response to temperature and moisture. **SSA-149**

AQ-85 Attachment E3, Page E3-8, Areas of Exposed Playa
The PEIR analysis needs to distinguish between areas expected to have a halite salt crust and other types of exposed areas. **SSA-150**

AQ-86 Attachment E3, Page E3-8, Paragraph 2 **SSA-151**

28

SSA (cont.)

SSA-141

See response to comment SSA–136

SSA-142

See response to comment SSA–136

SSA-143

As the commenter notes, different General Conformity de minimis thresholds for NOx apply in the Riverside County and Imperial County portions of the study area. However, separating the net emission increases between Riverside County and Imperial County was deemed beyond the scope of the Draft PEIR, because information on specific emissions sources and their locations was not available. The General Conformity discussion was included in the Draft PEIR because it is very likely that implementation of a restoration program would require a federal action. A detailed analysis of General Conformity could be required as part of future project-level analysis for any federal action taken.

SSA-144

Tables E2-8 through E2-13 will be inserted after the “Tables” flysheet in Appendix E, Attachment E-2 Emissions Estimates.

SSA-145

See response to comment SSA-104.

SSA-146

See response to comment SSA-124.

SSA-147

It cannot be predicted with absolute certainty where NaCl crusts will form. Currently alternatives did not specify the locations or conditions for areas that would be exposed as the Sea recedes. Further analysis may be appropriate during future project-level analysis. See response to comment SSA-86.

SSA-148

See response to comments SSA-86, SSA-104 and SSA-147.

SSA (cont.)

SSA-149

See response to comment SSA-86. As noted in Appendix E, Attachment E9 of the Draft PEIR, soil texture, source brine, evaporate history and climate, among other factors, will strongly influence efflorescence and dust formation.

SSA-150

See response to comment SSA-86.

SSA-151

The statement on page E3-8 of the Draft PEIR will be corrected to read “The data from the Niland station indicate wind speeds exceeded 30 mph at times during 2002 and the predominant wind direction was from the west.”

This paragraph says that "data from the Niland station indicate that wind speeds exceeded 35 mph at times during 2002", but Table E3-3 does not reflect any wind events for the wind speed range of 35 - 40 mph. Is there a typo on page E3-8, or is there an error in Table E3-3?

SSA-151 cont.

AQ-87 Attachment E3, Page E3-11 and Tables E3-5, E3-6, and E3-7, Paragraph 2, 5th bullet item on page E3-11; Tables E3-5, E3-6, and E3-7
The PEIR needs to separate out areas around the brine sink of each alternative where a sodium chloride salt crust can be expected to form after the brine sink reaches saturation with respect to sodium chloride. Areas between the water level of the brine sink at that stage and the miminum brine sink area in Phase IV would have a sodium chloride crust that could be maintained to provide complete control of fugitive dust. Areas covered by a halite salt crust would not constitute "exposed playa area". Maintenance of a halite salt crust is relatively simple: merely apply concentrated brine to the salt deposit if precipitation events dissolve the crust and it does not reform from groundwater under the former crust area. This method was demonstrated by the 5-year Salt Laydown Project at Bonneville Salt Flats. (See supplemental discussion below)

SSA-152

Supplemental Discussion, Comment AQ-87, regarding Attachment E3, Page E3-11, Paragraph 2, 5th bullet item
Brine extracted from the playa sediments under the Bonneville Salt Flats has been used for commercial potash production for many decades. Studies conducted between 1960 and 1988 showed that this brine extraction had reduced of the original salt flat acreage and salt flat thickness. The Bureau of Land Management conducted a 5-year test program from 1997 to 2002 to help restore the salt deposits. This test program demonstrated that halite precipitated in concentration ponds during the potash production process could be re-dissolved and returned to the salt flats. The amount of salt returned to the Bonneville Salt Flat system during the 5-year test program (an average of 1.2 million tons per year) exceeded the amount removed in brine pumped from the playa sediments for potash production (an average of 0.85 million tons per year). The replenishment program operated from November through April of each fiscal year. Approximately 19,192 acre-feet (6.3 billion gallons) of brine were delivered to the salt flats during the 5-year replenishment program (15,857 hours of pumping).

In addition to increasing the thickness of the existing salt crust, the salt laydown project resulted in about 5 square miles (3,200 acres) of new salt crust formation, mostly on the eastern side of the Salt Flats where commercial brine extraction had eliminated historic salt crust.

References for the Bonneville Salt Flats Salt Laydown Project:

White, W. W. III. and Glenn D. Wadsworth. 2001. Salt Laydown Project - Bonneville Salt Flats: 1997 - 1999 Progress Report. Document downloaded from BLM website (www.ut.blm.gov/wh3bsfsalt.html) on November 14, 2006.

White, W. W. III. 2002. Salt Laydown Project: Replenishment of Salt to the Bonneville Salt Flats. Pages 433 - 486 in J. Wallace Gwynn, ed., Great Salt Lake: An Overview of Change. Special Publication of the Utah Department of Natural Resources, Utah Geological Survey. Document downloaded from BLM website (www.ut.blm.gov/wh3bsfsalt.html) on November 14, 2006.

White, W. W. III. 2004. Replenishment of salt to the Bonneville Salt Flats: Results of a 5-Year Experimental Salt Laydown Project. Pages 243 - 262 in S. B. Castor, K. G. Papke, and R. O. Meeuwig, eds., Bettin on Industrial Minerals, Proceedings of the 39th Forum on the Geology of Industrial Minerals, May 19 - 21, 2003, Sparks, Nevada. Nevada Bureau of Mines and Geology Special Publication 33. Document downloaded from BLM website (www.ut.blm.gov/wh3bsfsalt.html) on November 14, 2006.

SSA (cont.)

SSA-152

See response to comment SSA-93.

White, W. W. III. 2004. Appendices for Replenishment of Salt to the Bonneville Salt Flats: Results of a 5-Year Experimental Salt Laydown Project. Document downloaded from BLM website (www.ut.blm.gov/ wh3bsfsalt.html) on November 14, 2006.

AQ-88 Attachment E3, Page E3-11; Tables E3-5, E3-6, and E3-7; Page E3-19, Paragraph 5 on page E3-11; Tables E3-5, E3-6, and E3-7; Paragraph 2 on page E3-19
The Final PEIR needs to be revised to reflect current designs and assumptions of Alternatives 4 and 7, as well as refinements to other alternatives that may be warranted by public review of the Draft PEIR. **SSA-153**

AQ-89 Attachment E3, Page E3-12, Paragraphs 1 and 2
The Final PEIR needs to revise these paragraphs to reflect revised emissions analyses consistent with the other comments concerning impact assessment methods and analyses **SSA-154**

AQ-90 Attachment E3, Page E3-19, Paragraph 4
What is the basis for assuming that water-efficient vegetation cover will provide 95% control of fugitive dust emissions? What is the basis for assuming that a protective salt flat will have only an 85% control effectiveness? If there is no exposure of the underlying playa sediments and the salt deposit is primarily halite, then there will be no wind erosion and the control effectiveness will be 100%. **SSA-155**

AQ-91 Attachment E3, Page E3-19, Paragraph 8
Appendix E3D was not included on the CD for the PEIR. Perhaps this paragraph should be deleted from Attachment E3. **SSA-156**

AQ-92 Attachment E3, Page E3-21 through E3-24, Tables E3-8 through E3-11
These tables need to be updated to reflect revised emissions analyses consistent with the other comments concerning impact assessment methods and analyses **SSA-157**

AQ-93 Attachment E5, Page E5-1, Paragraph 3
Mitigation measures such as these should be assumed for the impact analysis E114of alternatives which require transport of large quantities of rock and gravel. *See also Comments 2 and 3.* **SSA-158**

AQ-94 Attachment E5, Pages E5-3, E5-4, and E5-5, Figures E5-1, E5-2, and E5-3
These figures and the associated text need to be updated to reflect revised emissions analyses consistent with the other comments concerning impact assessment methods and analyses **SSA-159**

AQ-95 Attachment E7, Page E7-2, Paragraph 3
Although this paragraph says wind speed data for 2001 through 2005 were evaluated, Table E7-1 indicates that data from 2005 were not used. Was any analysis undertaken to see how average and peak wind speeds for 2001 through 2004 compared to wind speeds in the data sets from the 1990s? **SSA-160**

AQ-96 Attachment E7, Page E7-15, Paragraph 4
The PEIR analysis needs to distinguish between areas expected to have a halite salt crust and other types of soil or salt crusts. Halite salt crusts will not show seasonal differences in emissivity. **SSA-161**

AQ-97 Attachment E7, Page E7-16 and Attachment E9, Page E9-1, Paragraph 1 on page E7-16; Paragraph 1 on page E9-1
As shown by Table E9-4 and Appendix D in Attachment E9, the average condition of Salton Sea waters should precipitate a halite salt crust. The presence of efflorescent salt crusts around the southern shoreline of Salton Sea suggests that conditions there may be different from the average condition of Salton Sea waters. The PEIR fails to evaluate the conditions and mechanisms that create these deposits. Thus, it is not at all obvious that similar conditions will **SSA-162**

SSA (cont.)

SSA-153

See response to comment SSA-128.

SSA-154

See response to comment SSA-128.

SSA-155

See response to comment SSA-129.

SSA-156

Appendix E3D of the Draft PEIR was included in the print version of the document and may be downloaded from the program website at http://www.saltonsea.water.ca.gov. It was inadvertently omitted in the CD version of the document. No change to the Draft PEIR is warranted.

SSA-157

See response to comment SSA-129.

SSA-158

See response to comment SSA-134. Although different construction methods may be used for different alternatives, as summarized in Table 3-1 of the Draft PEIR, evaluation of specific construction actions was identified as an area needing further study during project-level analysis. The approach used to compare the alternatives in the Draft PEIR was to rely on a common set of assumptions (see Chapter 3), such as using heavy-duty trucks to transport materials. The Draft PEIR presented a discussion of potential mitigation measures, such as the use of trains or conveyor systems for material transport. These and other mitigation measures could be considered as part of future project-level analysis.

SSA-159

See response to comment SSA–136. The figures in Appendix E5 of the Draft PEIR were presented for illustrative purposes to assist the reader in understanding the relative magnitude of construction emissions when comparing alternatives. The information in these figures is appropriate for the programmatic level assessment and conveying the relative magnitude of emissions associated with each alternative. Refinements in the emission estimates could be completed as part of project-level analysis.

SSA (cont.)

SSA-160

The tool (MacDougall Method) for playa emissions estimation was developed to provide a comparison of the alternatives (one of the overall objectives of the PEIR), and was not supported by sufficient information to provide precise estimates of emission rates. Complete, quality assured, meteorological data sets at 10 meters height from both ends of the Salton Sea were selected for use. The 2002 data were the most recent data that met all criteria. The data from 2002 were compared with the data from 2001 through 2004, and were not exceptional. These data were not compared to data from the 1990s. The data set selected to support future project-level analysis could be compared with historical meteorological data to ensure that the data used for that analysis are not exceptional.

SSA-161

See response to comment SSA-86.

SSA-162

See response to comment SSA-92.

exist elsewhere when the level of the Salton Sea is lowered significantly from current conditions. A thorough evaluation of this situation is essential at the programmatic level to ensure a realistic assessment of the potential for fugitive dust generation from exposed lakebed sediments. The PEIR also fails to recognize that halite salt crusts are quite different from clay soil crusts or efflorescent salt deposits, and would provide a non-emissive cap on the underlying sediments.

AQ-98 Attachment E7, Page E7-16, Paragraph 2
All that has.been found at Salton Sea in terms of efflorescent salt deposits is a seasonal occurrence of deposits in a shoreline zone apparently influenced by wave run-up effects, and possibly influenced by water circulation conditions that are not typical of other portions of the Salton Sea and which may not exist when water levels decline significantly. The Great Salt Lake does not appear to have salt-related fugitive dust problems associated with extensive lakebed areas exposed by declining water levels over the last 17 years. The water chemistry of the Salton Sea is more similar to that of Great Salt Lake than it is to the groundwater underlying the Owens Lake playa.

AQ-99 Attachment E7, Page E7-16, Paragraph 3
Investigating the hydrologic mechanisms and other conditions associated with the limited seasonal efflorescent salt deposits found along the southern shoreline of Salton Sea is at least as important as field observations of these deposits in terms of predicting the future condition of lakebed sediments that will be exposed by a lowering water levels. This should have been a primary task of the PEIR analyses, since it is essential for a proper evaluation of future conditions at a programmatic level. See also Comments 18, 19, 22, 23, 24, and 25.

AQ-100 Attachment E7, Pages E7-16 and E7-17, Paragraph 8 on page E7-16, continuing to Paragraph 1 on page E7-17
The PEIR needs to recognize halite salt crusts as a feature completely distinct from efflorescent salt crusts or clay soil crusts. Halite salt crusts to not undergo seasonal changes that lead to high emission rates. Future conditions cannot be properly evaluated without separating areas that will be covered by a halite salt crust from other areas exposed by lowered water levels.

AQ-101 Attachment E7, Page E7-17, Paragraph 3
The discussion in this paragraph applies only to crusting of clay soils or to thin evaporative salt crusts dominated by efflorescent salts such as sodium sulfate or sodium carbonate salts. It does not apply to chloride salts, and thus is not applicable to areas subject to direct salt precipitation from the brine sink features of the various alternatives. Sodium chloride crusts may soften when saturated, but they remain non-emissive and become hard when they dry.

AQ-102 Attachment E8, Pages E8-23 through E8-31
The increase in wind speed with height above the ground varies according to atmospheric stability class. Why didn't the analysis for the correlation between CIMIS 2-meter wind speed and 10-meter data use conventional dispersion modeling power law extrapolation procedures? The data analysis could have tested conventional power law exponents against site-specific data, or it could have developed site-specific power law exponents could then be computed for each stability class. The conventional approach first sorts data pairs according to atmospheric stability class before attempting to determine correlation coefficients or power law exponents. Trying to find a single extrapolation factor simply builds errors into the analysis.

AQ-103 Attachment E9, Page E9-1, Paragraph 2 on page E9-1
All that has been found at Salton Sea in terms of efflorescent salt deposits is a seasonal occurrence of deposits in a shoreline zone apparently influenced by wave run-up effects, and possibly influenced by water circulation conditions that are not typical of other portions of the Salton Sea and which may not exist when water levels decline significantly. The Great Salt Lake does not appear to have salt-related fugitive dust problems associated with extensive lakebed areas exposed by declining water levels over the last 17 years. The water chemistry of the

SSA-162 cont.

SSA-163

SSA-164

SSA-165

SSA-166

SSA-167

SSA-168

SSA (cont.)

SSA-163

See response to comments SSA-80 and SSA-87.

SSA-164

See response to comments SSA-78 and SSA-80.

SSA-165

See response to comment SSA-86.

SSA-166

See response to comment SSA-86.

SSA-167

The evaluation of the CIMIS 2-meter meteorological data included a power law approach which is used in conventional dispersion modeling. This is described in Appendix E, pages E-22 through E-24, of the Draft PEIR.

SSA-168

Response to comment SSA-72 concurs that the wave run-up mechanism for salt formation is not capable of forming geographically extensive salt deposits. Again, many factors are involved in salt deposition, including the one that was discounted in comment SSA-72. See response to comments SSA-86 and SSA-88.

Salton Sea is more similar to that of Great Salt Lake than it is to the groundwater underlying the Owens Lake playa.

SSA-168 cont.

AQ-104 Attachment E9, Page E9-1, Paragraph 2 on page E9-1
Chemical modeling and laboratory evaluations are essential for a proper understanding of the mechanisms that either lead to or avoid fugitive dust problems at saline lakes. The salt precipitation sequences that formed in Owens Lake as it desiccated are in fact very predictive, and explain why fugitive dust problems arose at Owens Lake. If sodium chloride had been the first salt to precipitate as Owens Lake desiccated, there would be a non-emissive halite crust on the outer playa area at Owens Lake, and the current fugitive dust problem there would not have developed. Instead, initial salt balances and water temperature conditions at Owens Lake led to the initial precipitation of sodium carbonate and bicarbonate salts, followed by sodium sulfate salts. These salts precipitated on the outer playa area, and became the source of the efflorescent salt formations that continue to affect playa conditions in a way that leads to dust storm events.

SSA-169

AQ-105 Attachment E9, Page E9-1, Paragraph 2 on page E9-1
As Vic Etyemezian from DRI noted in his handouts at the November 7, 2006 air quality working group meeting, "Salt chemistry has a huge role" in determining fugitive dust emissions from exposed playas.

SSA-170

AQ-106 Attachment E9, Page E9-1, Table E9-1
There is a typo in the chemical name for gypsum; gypsum is calcium sulfate dihydrate.

SSA-171

AQ-107 Attachment E9, Pages E9-1 and E9-2, Paragraph 3 on page E9-1, continuing to Paragraph 1 on page E9-2
Investigating the hydrologic mechanisms and other conditions associated with limited seasonal efflorescent salt deposits found along the southern shoreline of Salton Sea is at least as important as field observations of these deposits in terms of predicting the future condition of lakebed sediments that will be exposed by a lowering of water levels. This should have been a primary task of the PEIR analyses, since it is essential for a proper evaluation of future conditions at a programmatic level. If you do not understand the processes that create the existing deposits, how can you make a reliable assumption about whether or not similar processes will exist under changing conditions? See also Comments 18, 19, 22, 23, 24, and 25.

SSA-172

AQ-108 Attachment E9, Page E9-2, Paragraph 3 on page E9-2
The important comparison to make between the chemistry of Salton Sea and Owens Lake is the combination of sulfate, carbonate, and bicarbonate versus chloride. The groundwater under the Owens Lake playa has a sulfate/carbonate content nearly three times higher than that of Salton Sea. The salt balance in the Salton Sea is nearly 85% chloride.

SSA-173

AQ-109 Attachment E9, Page E9-2, Paragraph 6
While it is true that salts precipitated from solution as a lake desiccates may not have the same crystal structures that develop in efflorescent deposits when lakebed deposits are subsequently exposed, the basic chemistry of the precipitated salts determines the range of evaporative salt minerals that can form. A precipitated sodium carbonate deposit will only generate sodium carbonate/bicarbonate salts in an evaporite deposit. A precipitated sodium sulfate deposit will only generate sodium sulfate salts in an evaporite deposit. A precipitated chloride salt will only generate chloride salts in an evaporite deposit.

SSA-174

AQ-110 Attachment E9, Pages E9-2 and E9-3, Paragraph 6 on page E9-2, continuing to page Paragraph 1 on page E9-3
If the PEIR is using "efflorescence" as a generic synonym for the formation of an evaporative salt deposit, then the document must consistently include a discussion of whether the resulting deposit is a stable, non-emissive salt or a mineral form that undergoes phase change reactions that generate emissive non-crystalline powders (the mineralogical definition of efflorescent salts).

SSA-175

SSA (cont.)

SSA-169

Laboratory studies, while valuable, are unlikely to adequately replicate field conditions, and therefore are not sufficiently predictive. Field observations are still necessary, which was reflected in heavy reliance on published accounts of field investigations in Appendix E, Attachment E-9, of the Draft PEIR.

SSA-170

Salt chemistry does play a significant role in determining fugitive dust emissions from playas.

SSA-171

Table E9-1 of the Draft PEIR has been corrected to reflect that the correct chemical name for gypsum is “calcium sulfate dihydrate.”

SSA-172

See response to comments SSA-86, SSA-89, and SSA-169.

SSA-173

The ratio of chloride to other anions is not a fixed number, but varies over time. For example, in 2000, the sulfate content at the Bertram Station comprised nearly 39 percent and chloride about 61 percent of the anions on a mass basis, while in 1996, sulfate accounted for about 21 percent of the anion mass, and chloride represented 74 percent. This variability results in added complexity. See response to comments SSA-86 and SSA-89.

SSA-174

There is a difference between brine pool evaporation and evaporation by capillary wicking and interaction with climatic conditions. Crystal morphology and weathering effects are among significant factors determining salt properties and behavior. See response to comment SSA-86.

SSA-175

The Draft PEIR does not define efflorescence in the manner proposed by the commenter. See response to comments SSA-84 and SSA-86.

Halite does not undergo phase changes from a crystalline solid to a non-crystalline amorphous powder. Page E9-4 notes that halite will either be present as a stable crystalline form or it will dissolve into a slurry. Neither condition would be emissive.

SSA-175 cont.

AQ-111 Attachment E9, Page E9-3, Paragraph 2
The discussion focuses entirely on a small component of the salts which are expected to precipitate from Salton Sea water, and completely ignores the fact that the vast majority of a salt deposit formed will be halite, which does not form emissive deposits. Sulfate is only a small component of the dissolved mineral load in Salton Sea. The comparison to Owens Lake is misleading and incomplete because the dominant efflorescent salts at Owens Lake are carbonate/bicarbonate salts, not sulfate salts.

SSA-176

AQ-112 Attachment E9, Page E9-3, Paragraph 3
Because the PEIR fails to distinguish between a generic definition of efflorescence and the mineralogical definition of efflorescence, it draws misleading and erroneous conclusions about whether different salts formed in evaporative deposits are emissive. Halite and gypsum can form in evaporative deposits, but that does not make the resulting deposits emissive. The PEIR needs to make a very clear and consistent distinction between the mere formation of evaporative salt deposits and whether or not those deposits would be emissive.

SSA-177

AQ-113 Attachment E9, Page E9-3, Paragraphs 4 and 5
This is a description of evaporative salt deposit formation. It does nothing to explain whether or not the resulting deposit will be efflorescent in a mineralogical sense or whether or not the resulting deposit will be emissive.

SSA-178

AQ-114 Attachment E9, Pages E9-3 through E9-6, Paragraph 7 on page E9-3 through Paragraph 3 on page E9-6
The entire discussion of specific salt minerals needs to make a clear distinction between the mechanism of formation (whether called evaporative or efflorescent) and the stability or emissiveness of the resulting deposit. Only those mineral forms that undergo phase change reactions in response to changing temperature and humidity conditions have the potential to generate emissive deposits. Halite can be formed as an evaporite deposit, but such deposits are not efflorescent in a mineralogical sense, and do not exhibit high emission rates. In general, calcium salt deposits are stable, as are chloride salt deposits. In general, it is only certain sodium salts (sodium carbonate/bicarbonate salts and sodium sulfate salts) that are emissive in a playa setting.

SSA-179

AQ-115 Attachment E9, Page E9-5, Paragraph 3
This discussion assumes that sodium sulfate salts will precipitate on exposed lakebed deposits as water levels decline and overall salinity levels rise. The PEIR has provided no evidence that this will in fact happen. The relative salt balance of the Salton Sea (85% chloride salts on a molar ratio basis) and water temperature conditions suggest that it is likely that sodium chloride will be the first salt to precipitate, thus capping and protecting the underlying sediments. Appendix B to Attachment E9 and Table E9-4 clearly indicate that halite is the expected dominant salt. The salt saturation curve sheet (included at the end of these comments) indicates that chloride salts precipitate at lower concentrations than do sulfate salts under warm water temperatures. The PEIR failed to provide a timeline of future salt balance conditions. There is no basis for assuming that the relatively low sulfate concentrations in Salton Sea will reach saturation before the much higher chloride concentrations. (See salt saturation curve sheet, included at the end of these comments)

SSA-180

AQ-116 Attachment E9, Page E9-6, Paragraph 4 on page E9-6
The text of PEIR Attachment E9 presents a very misleading comparison of the Salton Sea and Owens Lake systems. Most importantly, the text comparing Owens Lake and Salton Sea on page E9-6 ignores carbonate/bicarbonate salts, which are the dominant emissive salt types at Owens Lake. Sulfate salts are only a portion of the salt types of interest. The combination of

SSA-181

33

SSA (cont.)

SSA-176

See response to comment SSA-86 and SSA-173.

SSA-177

See response to comments SSA-84, SSA-85, and SSA-86. Emissivity depends on morphology, weathering history, climatic conditions, and other factors, as documented among references in response to comment SSA-193.

SSA-178

The cited passage occurs in a section entitled “General Efflorescence Mechanism,” and is appropriate to that topic. See response to comments SSA-84, SSA-85, and SSA-86.

SSA-179

It is true that calcium and chloride salt deposits are generally stable, while sodium salts can be emissive in a playa setting. Secondary mineral formation from weathering and other variable factors also should be acknowledged and are beyond the scope of the analysis in Appendix E, Attachment E-9, of the Draft PEIR. See response to comments SSA-84, SSA-85, and SSA-86.

SSA-180

See response to comments SSA-84, SSA-85, SSA-86, and SSA-92. No predictions have been made about salt deposition sequences and relative abundances. However, it appears that the comment is made in the context of the Brine Sink and not in the context of crust formation mechanisms such as capillary supply of saltwater to playa surfaces, double salt formation, and weathering, etc. These are some of the reasons why an empirical approach to assessment and mapping of emissive areas was developed and used in the Draft PEIR (see response to comment SSA-14).

SSA-181

See response to comments SSA-84, SSA-85, and SSA-86.

SSA (cont.)

carbonate, bicarbonate, and sulfate salts is the real group of salts that are of interest. Based on the molar percent data in Table E9-4, the Salton Sea system has only 16% sulfate/carbonate/bicarbonate salts while the groundwater under the Owens Lake play has 47% sulfate/carbonate/bicarbonate salts. The Owens Lake system is nearly 3 times higher in relative sulfate/carbonate content than the Salton Sea. Clearly, the chemistry of the Owens Lake system is substantially different from that of the Salton Sea system. (See supplemental discussion below and table sheet, included at the end of these comments)

SSA-181 cont.

Supplemental Discussion, Comment AQ-116, regarding the comparison of Salton Sea with Owens Lake

The salt deposits that contribute to air quality problems at Owens Lake trace their origin to the initial desiccation of Owens Lake. That desiccation produced a vertical and horizontal stratification of salt minerals, with sodium carbonate salts being the first to precipitate, followed by sodium sulfate salts and sodium carbonate-sulfate double salts. Sodium chloride salt precipitated later, and primarily in the area of the current residual brine pool. Sodium carbonate and sodium sulfate salts dominated the deposits on the outer playa area within the pre-desiccation shoreline of Owens Lake. The solubility of the initial sodium carbonate and sodium sulfate deposits precluded formation of permanent surface deposits. But the high solubility of these salts ensured that they would be the major source of the salt load in the underlying playa sediments and shallow groundwater. The chemistries of the residual brine pool and surface water inflows do not reflect the chemistry of Owens Lake prior to desiccation and deposition of massive salt deposits.

When considering the potential for salt deposit formation at a saline lake, it is important to consider not only the molar percents, but also the absolute concentrations of the major salt ions in the waters that are likely to be the source of salt deposits. The absolute concentrations are key to determining whether salts will reach saturation and be precipitated as the water balance of a saline lake is changed.

The tables on the following worksheet provide a comparison of major salts in pre-desiccation Owens Lake, Mono Lake, Great Salt Lake, and Salton Sea. Comparable data for ocean water is provided for additional comparison. As can be seen, not only did pre-desiccation Owens Lake have an absolute sulfate concentration that was higher than that of the Salton Sea, Owens Lake had carbonate concentrations that were almost twice as high as the Owens Lake sulfate concentrations. The combined sulfate/carbonate concentration of pre-desiccation Owens Lake was more than 4.3 times higher than the current sulfate/bicarbonate content of the Salton Sea. See Supplemental Tables, at the end of these comments.

When comparisons between Salton Sea and Owens Lake are based on molar ratios, the combined sulfate/carbonate content of pre-desiccation Owens Lake was 2.5 times the sulfate/bicarbonate content of the Salton Sea (using data from pre-desiccation Owens Lake in the supplemental table sheet, included at the end of these comments). If the comparison is based on current groundwater chemistry under the playa (Table E9-4 of PEIR Appendix E9), then Owens Lake has 2.95 times as much sulfate/carbonate content as the Salton Sea. Clearly, no matter what data are used for the comparison, Owens Lake has a chemistry that is significantly different than the chemistry of the Salton Sea. In addition, it must be recognized that the spatial distribution of salts produced by the Owens Lake desiccation will not happen at Salton Sea until it desiccates to the point where major salts reach saturation. And it must also be recognized that water temperature patterns at Salton Sea are likely to result in a different sequence of salt precipitation than occurred at Owens Lake. At Salton Sea, sodium chloride salts are likely to precipitate first, not last.

References for history of salt deposit formation and chemistry at Owens Lake:

Alderman, S. S., Jr. 1985. Geology of the Owens Lake Evaporite Deposit. Pages 75-83 in Sixth International Symposium on Salt, Volume 1. The Salt Institute. Alexandria, VA.

Smith, G. I. and I. Friedman. 1986. Seasonal Diagenic Changes in Salts of Owens Lake, California. Pages 21-29 in F. A. Mumpton, (ed.), Studies in Diagenesis. (U.S. Geological Survey Bulletin 1578.)

Smith, G. I., I. Friedman, and R. J. McLaughlin. 1987. Studies of Quaternary Saline Lakes - III. Mineral, Chemical, and Isotopic Evidence for Salt Solution and Crystallization Processes in Owens Lake, California, 1969-1971. Geochimica et Cosmochimica Acta 51:811-827.

AQ-117 Attachment E9, Page E9-6, Paragraph 4
In discussing Table E9-4, the text should note that the closest match to Salton Sea chemistry at Owens Lake is the residual brine pool, which is not a source of significant fugitive dust emissions. The groundwater under the playa is the dominant source of salt deposits on the Owens Lake playa. The chemistry of Salton Sea water is distinctly different from the groundwater under the Owens Lake playa. The text should also note that while springs and intermittent surface drainages provide water to the Owens Lake system, they are not important direct contributors to the overall salt balance of the system (which is dominated by salts precipitated when Owens Lake desiccated and which subsequently dissolved and have affected the groundwater underlying the playa).

SSA-182

AQ-118 Attachment E9, Pages E9-2 and E9-6, Paragraph 3 on page E9-2 and Paragraph 4 On page E9-6
In addition to correcting the comparison between Salton Sea and Owens Lake, Attachment E9 should present a comparison between Salton Sea and Great Salt Lake. Overall, the molar percents for salt anions at Salton Sea are closer to those of Great Salt Lake (or to sea water) than to Owens Lake: as molar percents, 84% chloride at Salton Sea, 95% chloride at Great Salt Lake, 59% chloride at historic Owens Lake, and 51% chloride in Owens playa groundwater; 16% sulfate/carbonate at Salton Sea, 5% sulfate/carbonate at Great Salt Lake, 41% sulfate/carbonate at historic Owens Lake, and 47% sulfate/carbonate in Owens playa groundwater.
(See supplemental table sheet, included at the end of these comments)

SSA-183

AQ-119 Attachment E9, Page E9-6, Paragraph 5
The stated conclusion that "crystallized salt sequences occurring in evaporating brine pools are not predictive of the salts that occur in a playa setting" is incorrect. The basic chemistry of the salts precipitated in a brine pool determines the basic chemistry of any evaporative salts that subsequently form on the playa. All that changes is the crystalline structure and water of hydration. The sequence of salt precipitation as Owens Lake desiccated was entirely predictive of the efflorescent salts that now form on the outer playa at Owens Lake.

SSA-184

AQ-120 Attachment E9, Page E9-7, Paragraph 1
The first part of Conclusion 2 is true only if it is clearly and explicitly stated that "efflorescence" is being used in a generic sense meaning that the salts can form in evaporative deposits, and that as used in this sense, efflorescence does not imply anything about whether or not the resulting salt deposit would be emissive. The statement that the typical morphology of these salts is elongated whiskers is not true. Chloride salts form crystalline structures that would seldom be described as whiskers. The DRI study did not describe the morphology of any of the salt deposits along the southern shoreline of Salton Sea as whiskers. The common descriptions were "smooth crust", "botryoidal crust", "irregular crust", or "hummocky crust". The most emissive salt deposit morphology would be described as "powdery".

SSA-185

AQ-121 Attachment E9, Page E9-7, Paragraph 3

SSA-186

SSA (cont.)

SSA-182

The distinct chemistries of Salton Sea and Owens Lake are presented in Table E9-4 in the Draft PEIR. See response to comments SSA-84, SSA-85, SSA-86, and SSA-92.

SSA-183

See response to comment SSA-88. The Salton Sea resembles many natural saline bodies, but also differs from each in specific ways. For example, the Salton Sea contains much higher calcium (3.66%) and sulfate (21.7%) as a weight-fraction than does either the Great Salt Lake (Ca – 0.3%; SO4 – 7.6%) or sea water (Ca – 1.2%; SO4 – 7.7%). Consequently, the evaluations in the Draft PEIR were focused on the Salton Sea and not other saline water bodies.

SSA-184

The basic reason for a distinction between playa and brine pond behaviors is provided in the same conclusion that is cited in the comment, i.e., “Brine pools lack the pore structure, weathering, and mineral reworking that occur on a saline playa.” This is discussed in further detail in the “General Efflorescence Mechanism” section in Appendix E, page E9-3, of the Draft PEIR.

SSA-185

See response to comments SSA-84, SSA-85, and SSA-86. The higher sulfate content of Salton Sea brine increases the potential for formation of various efflorescent sulfate minerals. The Desert Research Institute noted that the softer crusts in January 2006 mostly failed the ball-drop test for surface stability required by ICAPCD dust control regulations.

SSA-186

See response to comments SSA-85, SSA-86, SSA-183, and SSA-185.

There is little evidence in the PEIR to support the second sentence of Conclusion 4. Presumed (but not confirmed) sulfate salt deposits have been found primarily along the southern shoreline of Salton Sea, but there was no evaluation of the hydrologic mechanisms responsible for these deposits, and no evaluation to determine if unusual conditions (localized water inflows high in sulfate content, location-specific water circulation conditions, etc.) are responsible for these deposits. The general water chemistry of Salton Sea (Tables E9-2 and E9-4) indicates that chloride salts should dominate the deposits when water levels decline and overall salinity increases. (See also Comments 18, 19, 22, 23, 24, and 25)

SSA-186 cont.

AQ-122 Attachment E9, Page E9-7, Paragraph 4
Conclusion 5 is incorrect on several counts. Pre-diversion Owens Lake had higher absolute sulfate concentrations than does the current Salton Sea. Appendix D of Attachment E clearly shows that the dominant salt expected to form at Salton Sea is halite, not sodium sulfate salts. And while sodium sulfate is the only type of efflorescent salt expected at Salton Sea, Owens Lake possesses a wide range of efflorescent salts (sodium sulfate, sodium carbonate, and sodium bicarbonate salts are all present at Owens Lake). The combined efflorescent salt mix at Owens Lake is much greater on a molar ratio basis than is the combined efflorescent salt mix at Salton Sea. Salton Sea is strongly dominated by chloride salts (85% on a molar ratio basis). The sequence of salt precipitation at Owens Lake put sodium carbonate, sodium bicarbonate, and sodium sulfate salts on the outer playa area. It is quite likely that the sequence of salt precipitation at Salton Sea will put sodium chloride salts on the areas exposed outside the residual brine pool.

SSA-187

AQ-123 Attachment E9, Page E9-7, Paragraph 5
The PEIR needs to better clarify what is meant by "models" in the first sentence of Conclusion 6. If the term is being used here to mean quantitative numerical emission rate models based on soil and water quality data, then the statement is true. But qualitative predictions could be made using salt balance information, information on hydrologic mechanisms, and geochemical information such as that presented in Appendices B and D of Attachment E9. Attachment E9 discusses several modeling analyses that have been done to estimate salt precipitation sequences for Salton Sea or for waters similar to Salton Sea. The PEIR failed to develop the salt balance and hydrologic mechanism information necessary to present a qualitative model for future salt deposit conditions at Salton Sea.

SSA-188

AQ-124 Attachment E9, Page E9-7, Paragraph 6
Conclusion 7 is dubious at best. Investigating the hydrologic mechanisms and other conditions associated with the limited seasonal efflorescent deposits found along the southern shoreline of Salton Sea is at least as important as field observations of these deposits in terms of predicting the future condition of lakebed sediments that will be exposed by a lowering of water levels. This should have been a primary task of the PEIR analyses, since it is essential for a proper evaluation of future conditions at a programmatic level. If you do not understand the processes that create the existing deposits, how can you make a reliable assumption about whether or not similar processes will exist under changing conditions? (See also Comments 18, 19, 22, 23, 24, and 25)

SSA-189

AQ-125 Attachment E9, Appendix B, Figure in Appendix B to Attachment E9
Why wasn't Appendix B of Attachment E9 reflected in the discussion of playa salt efflorescence for the Salton Sea? This figure clearly shows that salt crystallization from Salton Sea water will produce halite, not sodium sulfate salts. The sulfate:total salt anion ratio for Salton Sea is less than 16% based on data in Table 9-2. According to the Appendix B figure, that means a halite crust will form, not an efflorescent sodium sulfate salt crust.

SSA-190

AQ-126 Attachment E9, Appendix D, Figure in Appendix D to Attachment E9
There are more complexities to salt precipitation than the simple matter of molar ratios. No salts precipitate unless their concentration reaches saturation levels. Saturation levels are temperature-dependent. Appendix D includes a figure showing the saturation temperature curves

SSA-191

SSA (cont.)

SSA-187

See response to comments SSA-90 and SSA-91. A dominant component of the salt dust at Owens Lake is thenardite (anhydrous sodium sulfate), and while this mineral is not predicted as a primary mineral, two other sodium sulfate double salts are predicted in the Brine Sink - glauberite and bloedite. While Brine Sink mineralogy is of potential relevance, mineral weathering, capillary wicking, evaporation sequences and other factors are also important considerations.

SSA-188

The cited conclusion refers to models that predict mineral formation. Brine pool deposition sequences are not necessarily predictive of efflorescent salt formation at a qualitative level, because of numerous extraneous factors such as double salt formation, incongruent weathering, climatic conditions, and other factors. Field investigations are the most definitive approach. See response to comments SSA-90, SSA-91, and SSA-97.

SSA-189

See response to comment SSA-184. Conclusion 1 provided the reasoning behind Conclusion 7. See response to comments SSA-80 and SSA-92. Overall, this comment identifies a point of departure from current understanding and active investigation of salt behavior under various climatic conditions. No assertion is made that specific occurrences will take place, only that underlying conditions could lead to dust formation. Background documentation supports the potential for efflorescence and for emissions, but is not predictive.

SSA-190

See response to comment SSA-189. The overall body of information indicates that salts other than halite could be formed depending on factors other than just Brine Sink composition. Capillary rise, climatic effects, and other considerations are relatively complex and cannot be accounted for quantitatively.

SSA-191

It was not the intent to provide complete phase diagrams for all the various minerals that might form through various mechanisms. More detailed analysis would be appropriate during project-level analysis.

for two sodium sulfate salts: mirabilite and thenardite. What is not shown in Appendix D to Attachment E9 is the saturation curve for halite. The salt saturation curve sheet (included at the end of these comments) shows the temperature-dependent saturation curves for halite plus major sodium sulfate and sodium carbonate salts. At water temperatures below about 79.5 degrees F, the major sodium sulfate and sodium carbonate salts have saturation concentrations that are lower than the saturation concentration for sodium chloride. Above that temperature, sodium chloride has a saturation concentration that is lower than the saturation concentration for major sodium sulfate and sodium carbonate salts. (See Salt Saturation Curve sheet, included at the end of these comments)

AQ-127 Attachment E9, Appendix D, Figure in Appendix D to Attachment E9
It should be noted that the concentration axes on both Appendix D of Attachment E9 and the saturation curve sheet (included at the end of these comments) are in weight percents of salt compounds, not molar percents of anions or cations. Table E9-2 presents elemental concentrations for the major salts in Salton Sea, but does not provide an actual salt balance in weight percents. Thus, it is difficult to determine where the current sulfate and chloride salt concentrations are in relation to temperature-dependent saturation curves. Information on the estimated salt balance of the Salton Sea (as specific salt compounds, not just anions and cations separately) is necessary to evaluate the potential for direct salt precipitation at different temperatures. (See Salt Saturation Curve sheet, included at the end of these comments)

AQ-128 Attachment E9, References
Attachment E9 does not include a bibliography of references cited.

AQ-129 Appendix H-3, Page H3-2; and Attachment E6, Page E6-2, Paragraph 2 on page H3-2; Paragraph 2 on page E6-2
The PEIR should note that water used for air quality management purposes does not have to be fresh water. Measures that use saline water would have a water use advantage over those that require fresh water. As is clear from Table E9-4 and Appendix D to Attachment E9, water with the average composition of Salton Sea will precipitate a halite salt crust, not a sodium sulfate or sodium carbonate salt crust.

AQ-130 Appendix H-3, Pages H3-2 and H3-8; and Attachment E6, Page E6-2, Paragraph 8 on page H3-2; Paragraph 5 on page H3-8; Paragraph 8 on page E6-2
The 2003 Owens Valley PM_{10} SIP says 2.5 acre-ft per year of water is needed to maintain a saltgrass cover density of 50% (combined live and dead vegetation). Water requirements for the initial years of vegetation establishment at Owens Lake were higher (up to 7 acre-ft per acre in the first year). What evidence is there that 1.2 acre-ft per year of water (or less) will be sufficient to achieve effective vegetation cover in the Salton Sea area?

AQ-131 Appendix H-3, Pages H3-3 and H3-14; Attachment E6, Page E6-3, Table H6-1, Table H6-2. and Table E3-1
Stabilization with brine is clearly a feasible mitigation measure. Common experience with both natural and man-made halite salt crusts proves they are stable and can cover extensive areas. Page H3-16 states that "Natural formation of stable surface crusts is an important natural control mechanism of particulate emissions from playas throughout the western U.S. When the salt crusts remain stable, control efficiencies approaching 100 percent are common." The burden of proof is on the PEIR to demonstrate that halite salt crusts are not stable and are not effective. The Bonneville Salt Flats have endured for centuries, if not millennia. A demonstration of halite crusts is in place at the Salton Sea, but was ignored by the PEIR. (See also Comments 30 and 31)

AQ-132 Appendix H-3, Pages H3-3 and H3-14; Attachment E6, Page E6-3, Table H6-1, Table H6-2. and Table E3-1

SSA-191 cont.

SSA-192

SSA-193

SSA-194

SSA-195

SSA-196

SSA-197

SSA (cont.)

SSA-192

Conversions between weight percent and mole fractions can be made based on molar masses of compounds, so that all provided figures are interpretable based on readily accessible data.

SSA-193

The References for Appendix E, Attachment E9 were inadvertently omitted in the PEIR. They are as follows:

Babel, M. 2004 Acta Geologica Polonica Vol. 54, No. 2, pp. 219-249.

Chabas, A. and R. A. Lefèbre. 2000. Atmospheric Environment, 34 pp. 225-238.

Clarke, J.D.A. and C.F. Pain. 2004. American Astronomical Society, (AAS 03-308), Martian Expedition Planning (ed. C. Cockell).

DRI. 2006. (Desert Research Institute, for the California Department of Water Resources, Colorado River & Salton Sea Office). Etymezian, Vic, Mark Sweeney, Eric McDonald, Todd Caldwell, John Gillies, George Nikolich, Jin Xu, William Nickling, and Torin Macpherson. "Measurement of Windblown Dust Emission Potential and Soil Characteristics at the Salton Sea in Support of the Programmatic Environmental Impact Report: DRAFT Final Report".

Hamdi-Aissa, B., N. Federoff, and A. Halitim. 1998. Proceedings, 16th International Congress of Soil Science, Montpellier, France.

Hamdi-Aissa, B., V. Valles, A.Aventurier, and O. Ribolzi. 2004. Arid Land Research and Management, Vol. 18, No. 2, pp. 103-126.

King, P.L., D.T. Lecinsky, and H.W. Nesbitt. 2004. "The Composition and Evolution of Primordial Solutions on Mars, with Application to Other Planetary Bodies," prepared for Geochim. Cosmochim. Acta (Accepted June 1, 2004).

Last, W.M. and F.M. Ginn. 2005. Saline Systems, 1:10, published online, BioMed Central Ltd. (http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1315329) printed April 24, 2006.

Linke, W.L. 1958a. Solubilities of Inorganic and Metal Organic Compounds, A-Ir, Vol. I, American Chemical Society, Washington, D.C.

Linke, W.L. 1958b. Solubilities of Inorganic and Metal Organic Compounds, K-Z, Vol. II, American Chemical Society, Washington, D.C.

SSA (cont.)

SSA-193
cont.

Marshall, W.L. and R. Slusher. 1968. J. Chem. Eng. Data, Vol. 13, No. 1, 83-93.

Merry, R.H. and R.W. Fitzpatrick. 2005 An Evaluation of Tilley Swamp and Morella Basin, South Australia, CRC LEME Open File Report 195.

Niaz, A., S.A. Shahid, and S. Javid. 2003. Pakistan Journal of Water Resources, Vol. 7 (1) January-June, pp. 1-15.

Rijniers, L.A. 2004. Salt Crystallization in Porous Materials: an NMR Study, Ph.D dissertation, Technische Universiteit Eindhoven.

Rodriguez-Navarro, C., E. Doehne and E. Sebastian. 2000. Cement and Concrete Research, 30 pp. 1,527-1,534.

Saint-Amand, P., L.A. Matthews, C. Gaines and R. Reinking. 1968. Dust Storms from Owens and Mono Valleys, California, Naval Weapons Center Technical Publication 6731, China Lake, California.

Schreiber, B.C. and M. El Tabakh. 2000. Sedimentology, 47 (Supplement 1), 215-238.

Susarla, V.R.K.S. and J.R. Sanghavi. 1993. Seventh Symposium on Salt, Vol. I, 539-543 Elsevier Science Publishers B.V., Amsterdam.

Zhender, K. and A. Arnold. 1989. Journal of Crystal Growth, 97, 513-521.

SSA-194

Use of saline water for Air Quality Management of various types is discussed in Appendix H-3 (pages H3-16 and H3-35) of the Draft PEIR.

SSA-195

Initial water requirements for water efficient vegetation (saltgrass) at Owens Lake were on the order of 2.5 acre-feet per acre per year. This rate served as the basis for the Owens Valley SIP. Subsequent to the development of the SIP, actual average requirements were found to be approximately 1.5 acre-feet per acre per year. Shrubs employed in the current water efficient vegetation concept (which has 20 percent ground cover, not 50 percent as originally projected in the Owens Valley SIP) for Salton Sea would require less water than saltgrass. The irrigation water balance (based on Salton Sea climatic data, appropriate crop coefficients for water efficient vegetation at projected cover levels, and an appropriate salt leaching fraction) is provided in Table H3-3-4 on page H3-3-5 of the Draft PEIR. This is a standard method for estimating demand of plant stands for applied irrigation water, and the result of this analysis is 1.2 acre-feet per acre per year.

SSA (cont.)

SSA-196

The Draft PEIR does include the formation of a stable surface crust as one mechanism of possible surface stabilization of the Exposed Playa. During several Salton Sea Air Quality Working Group meetings, regulatory agencies expressed that the burden of proof of effectiveness of proposed playa stabilization will be on those responsible for stabilization. Regulatory agencies indicated that formation of a salt crust was an effective control measure, but wanted to see proof of its control efficiencies, especially in demonstration-scale projects at the Salton Sea. See response to comment SSA-16.

SSA-197

It is acknowledged that manmade halite salt crusts have been shown to be effective in controlling dust.

Utah's experience with both natural and man-made halite salt crusts proves that they are effective at large scale (over a million acres) and over the long term (centuries). The Utah Division of Air Quality website indicates that the only PM_{10} nonattainment areas in the state are in the urbanized areas along the Wasatch Front, and Utah has requested redesignation to attainment for all federal PM_{10} nonattainment areas in Utah. The Utah Regional Haze SIP makes no mention of fugitive dust from salt flats as a contributor to regional haze problems. (See also Comments 30 and 31)

SSA-197 cont.

AQ-133 Appendix H-3, Pages H3-3 and H3-14; Attachment E6, Page E6-3, Table H6-1, Table H6-2. and Table E3-1
Evaluations to confirmation of the effectiveness of stabilization with brine and creation of permanent halite salt caps should have been conducted as part of the PEIR. This is a programmatic issue, not a design-specific issue for selected alternatives. Each alternative has a residual brine sink that could be used as a water source for this mitigation approach. (See also Comments 30 and 31)

SSA-198

AQ-134 Appendix H-3, Pages H3-3 and H3-14; Attachment E6, Page E6-3, Table H6-1, Table H6-2. and Table E3-1
Stabilization with brine does not require fresh water, which is a scarce resource. The brine sinks associated with each alternative would provide a ready water supply for this measure. This is an important benefit of stabilization with brine that should be emphasized.

SSA-199

AQ-135 Appendix H-3, Pages H3-3 and H3-14; Attachment E6, Page E6-3, Table H6-1, Table H6-2. and Table E3-1
Where would stabilization with brine cause ponding that could mobilize selenium into the food chain for birds? The most important invertebrates would be lost from the brine sink created by each alternative by the end of Phase I, and all invertebrates would be eliminated in Phase II. The brine sink would not be a significant food web link by the end of Phase I. Likewise, a permanent salt flat would not be a meaningful food chain link for birds at the Salton Sea. Even for the portion of Phase I when brine sink salinities might allow development of invertebrate populations, what properties of ponded brine make it more likely to mobilize selenium into the food chain of birds than is the case for the other waters at Salton Sea? According to Table 8-7 in the PEIR, four of the alternatives show a selenium hazard quotient of 0 for the brine sink; two alternatives show a selenium hazard quotient of 0.1 for the brine sink; only two alternatives shows a brine sink selenium hazard quotient of 0.2 or higher.

SSA-200

AQ-136 Appendix H-3, Pages H3-3 and H3-14; Attachment E6, Page E6-3, Table H6-1, Table H6-2. and Table E3-1
Has the use of water efficient vegetation at the densities assumed for the PEIR and at the water application rates assumed for the PEIR been proven to provide the assumed 95% control of wind erosion? If so, where has this demonstration taken place? If not, then why did the PEIR considered this method to be proven when stabilization by brine application is not?

SSA-201

AQ-137 Appendix H-3, Pages H3-3 and H3-14; Attachment E6, Page E6-3, Table H6-1, Table H6-2. and Table E3-1
Stabilization with water-efficient vegetation generally would be considered to have an aesthetic advantage over other stabilization methods, and often would have some wildlife habitat value not generated by most other stabilization methods.

SSA-202

AQ-138 Appendix H-3, Page H3-5, Paragraph 6 (bullet item 2 under Playa with no specific land use)
The resistance of salt crust to wind erosion varies first and foremost according to the chemistry of the salt crust. Only those salts which undergo mineralogical phase changes are likely to show seasonal variations in susceptibility to wind erosion. Halite salt crusts are effective at protecting underlying sediments from wind erosion because they do not undergo mineralogical phase changes.

SSA-203

SSA (cont.)

SSA-198

See response to comments SSA-16 and SSA-194.

SSA-199

See response to comment SSA-194.

SSA-200

Experience at other saline water bodies, including Owens and Searles lakes, suggests that there is some ecological risk associated with management of brines on land surfaces. Further, selenium concentrations at the Salton Sea warrant special attention to ensure that restoration efforts do not result in unacceptable levels of ecological toxicity. Potential ecological risks associated with Air Quality Management approaches could be evaluated further during future project-level analysis.

SSA-201

See response to comments SSA-129 and SSA-195.

SSA-202

The State agrees with the comment.

SSA-203

See response to comment SSA-71, SSA-76, SSA-83, and SSA-86.

AQ-139 Appendix H-3, Page H3-5, Paragraph 11 (bullet item 1 under Refine understanding of playa emission patterns)
The PEIR failed to evaluate the hydrologic mechanisms and other conditions associated with the limited seasonal efflorescent deposits found along the southern shoreline of Salton Sea. This compromised the assessment of playa dynamics which must be considered to estimate probable conditions for the lakebed sediments that will be exposed by lowered Salton Sea water levels. If the existing shoreline efflorescent salt deposits are due to localized conditions, then it is inappropriate to assume that such conditions will automatically apply to future exposed sediment areas.

SSA-204

AQ-140 Appendix H-3, Page H3-6, Paragraph 5 (bullet item 2 under Develop dust control plans)
Because the water chemistry of Salton Sea is more similar to that of Great Salt Lake than it is to the groundwater underlying the Owens Lake playa, the literature and experiences of knowledgeable agencies in Utah should be evaluated to better characterize the potential for fugitive dust from lakebed sediments exposed at the Salton Sea and the effectiveness of halite salt crusts as a measure to control wind erosion from exposed sediments. (See supplemental table sheet, included at the end of these comments)

SSA-205

AQ-141 Appendix H-3, Page H3-6, Paragraph 10 (bullet item 2 under Plan for feedback)
Improved dust control mitigation measures need to be incorporated into the impact assessment and comparison of alternatives at the Final PEIR stage before selecting a restoration alternative.

SSA-206

AQ-142 Appendix H-3, Page H3-7, Paragraph 2 (Item 3)
Appendix H-3 notes that areas of the Owens Lake playa intermittently covered by the residual brine pool do not need any stabilization measures because they are either intermittently wet or are stabilized by a salt cap. Why does this not count as a demonstration of the mitigation effectiveness of stable salt crusts? The residual brine pool at Owens Lake is where most of the chloride salt precipitated when Owens Lake was desiccated. Why would not similar conditions prevail for areas around the brine sink under the various Salton Sea alternatives?

SSA-207

AQ-143 Appendix H-3, Page H3-8, Paragraph 4
Before applying the 30% non-emissive factor to exposed lakebed area, it is essential to separate out areas that would be protected by a non-emissive halite salt crust either formed deliberately in salt evaporation cells or formed by direct salt precipitation from a shrinking brine sink that has reached saturation.

SSA-208

AQ-144 Appendix H-3, Page H3-10, Paragraph 10 (bullet item 4 under Effective and reliable)
It does not take a formal research study to confirm the effectiveness of dust control measures. Simple practical experience is often enough. How many formal research studies have been conducted to prove that asphalt paving or concrete paving effectively control wind erosion from the paved area?

SSA-209

AQ-145 Appendix H-3, Page H3-16, Paragraphs 2 and 4
The text acknowledges that stable salt crusts are not susceptible to wind erosion, and provide virtually 100% control of wind erosion for underlying sediments. Halite is clearly a stable salt crust, and paragraph 4 acknowledges that sodium chloride is resistant to wind erosion. Why was this information not carried over into other portions of this appendix, the main PEIR text, and other appendices of the PEIR?

SSA-210

AQ-146 Appendix H-3, Page H3-16, Paragraph 5
BLM tested the durability of the natural salt crust at Bonneville Salt Flats by driving a tandem belly-dump-and-pup haul truck loaded with 33 tons of salt across a flooded and water-saturated section of the crust. No rutting and minimal salt compression occurred during the test. BLM cautions the public not to drive on the Salt Flats when they are flooded by winter rains. Stability of the salt crust is not at issue; but salt spray from the flooded Salt Flats can short out electrical

SSA-211

SSA (cont.)

SSA-204

See response to comments SSA-80.

SSA-205

See response to comments SSA-86 and SSA-88. Sulfate concentration of the Salton Sea is nearly three-times that of the Great Salt Lake or of sea water.

SSA-206

The Air Quality Management approaches discussed in Appendix H-3 of the Draft PEIR are the most promising based on available data. See response to comment SSA-14. At the programmatic level, this combination of best available approaches, monitoring, and site-specific research and development was deemed a sound approach to minimizing air quality impacts arising from dust emissions from the Exposed Playa.

SSA-207

See response to comments SSA-14 and SSA-16. Monitoring of the effectiveness and specific control mechanisms in the Owens Lake brine pool has been limited due to practical limitations of access. One stabilizing factor in the Owens Lake brine pool and Salton Sea brine sink is the brine itself, which is not emissive. Beyond the wetted area, it is acknowledged that stable salt crusts will likely form on certain areas of the future Salton Sea playa, and that they have formed on some areas of the Owens playa. However, tools and data to accurately predict their extent and location on the future Salton Sea playa do not exist, and there is evidence that portions of the area will not be stable. For this reason, air quality management was included as a component of the alternatives.

SSA-208

See response to comment SSA-16.

SSA-209

Regulatory agencies have indicated that they will require proof of the control effectiveness of any proposed stabilization method. It is true that different methods may require different levels of proof.

SSA-210

The extent, location, and sustainability of halite salt crusts are uncertain. See response to comments SSA-14, SSA-16, and SSA-86.

SSA-211

See response to comment SSA-88.

components and disable vehicles. (See White and Wadsworth (2001) reference noted in Supplemental discussion for Comment 87)

AQ-147 Appendix H-3, Page H3-16, Paragraph 6
If brine from the brine sink of an alternative is used as the water source to establish a salt crust, inadvertent ponding will not lead to development of invertebrate populations and creation of an attraction for birds and mobilization of selenium into the avian food supply. The brine will be too saline to support an avian food web link.

AQ-148 Appendix H-3, Page H3-17, Paragraph 2
The text claims that "stabilization with brine has not been proven on a large scale under conditions similar to those at Salton Sea". If this comment is going to be made about stabilization with brine, then it must be made about every mitigation measure listed on Tables H3-1 and H3-2, including stabilization with water efficient vegetation.

AQ-149 Appendix H-3, Page H3-17, Paragraphs 6 and 7
The dominant motion process for blowing sand is particle creep and saltation, not suspension transport which is the movement process of concern with respect to fugitive dust. Particle creep and particle saltation occur at lower threshold wind velocities than particle suspension in wind erosion. What percent vegetation cover is required for effective control of fugitive dust generation by wind erosion? The DRI study did not observe blowing sand at the study sample sites, and noted that blowing sand is not necessary for dust storm development. Blowing sand is common at Owens Lake, but not at Salton Sea.

AQ-150 Appendix H-3, Page H3-23, Paragraphs 4 and 6
There is no evidence that windblown sand drives wind erosion processes at Salton Sea. The DRI study concluded that blowing sand was not a major factor at the study sites tested with portable wind tunnels or PI-SWERL equipment.

AQ-151 Appendix H-3, Page H3-24, Paragraph 6
Although cost and environmental impact argue against large-scale use of gravel cover as a fugitive dust mitigation measure, the 2003 Owens Valley PM_{10} SIP states that it has proven to be an effective long-term measure with no deterioration in effectiveness over a 17-year period.

AQ-152 Appendix H-3, Page H3-26, Paragraph 1
There is no evidence that windblown sand drives wind erosion processes at Salton Sea. The DRI study concluded that blowing sand was not a major factor at the study sites tested with portable wind tunnels or PI-SWERL equipment.

AQ-153 Appendix H-3, Page H3-27, Paragraph 8
Creation of a halite salt crust (the key element of stabilization with brine) has been proven effective at extremely large scales and for extremely long time frames as both natural and artificially created salt crusts. The salt deposits on extensive playa areas left by Pleistocene Lake Bonneville in western Utah are a natural experiment in halite salt crust effectiveness and durability. They have existed for centuries, if not millennia, and cover well over 1 million acres. The West Desert Pumping Project left a 325,000 acre man-made halite salt crust that is still present 17 years later. (See Great Salt Lake Desert sheet for satellite image, included in Attachment 10)

AQ-154 Appendix H-3, Page H3-27, Paragraph 8
Because it does not require the use of scarce fresh water, stabilization with brine is the most water-efficient dust control measure. Stabilization with brine makes use of the readily available brine sink waters common to all alternatives.

AQ-155 Appendix H-3, Page H3-27, Paragraph 9

SSA-211 cont.

SSA-212

SSA-213

SSA-214

SSA-215

SSA-216

SSA-217

SSA-218

SSA-219

SSA-220

SSA (cont.)

SSA-212

See response to comment SSA-200.

SSA-213

Managed vegetation at Owens Lake extends over 3.5 square miles of extremely saline and poorly drained playa. Salt-tolerant shrubs and saltgrass have been shown to grow well under these conditions, although most of the area is currently planted with saltgrass. The infrastructure described for water-efficient vegetation is nearly identical to what has worked at this facility, although other irrigation and drainage approaches may eventually prove successful at Salton Sea. That facility is, therefore, a strong indication that water efficient vegetation can be successfully implemented at Salton Sea. No such large-scale proof is known for stabilization with brine, yet this measure was included in the PEIR to address areas where water efficient vegetation would be impossible due to intermittent inundation with brine. Additionally, see responses to comments SSA-16 and SSA-129.

SSA-214

See response to comment SSA-133.

SSA-215

See response to comment SSA-133.

SSA-216

See discussion of gravel cover in Appendix H, pages H3-23 and 24, of the Draft PEIR.

SSA-217

See response to comment SSA-133.

SSA-218

See response to comments SSA-16, SSA-86, and SSA-88. References to Bonneville Salt Flats are interesting but because of the ancient origins of the Salt Flats, relevance to future conditions at the Salton Sea is limited.

SSA-219

See the discussion of “Dust Control Measures with Minimal Water Requirement” in Appendix H, beginning on page H3-22, of the Draft PEIR for information on several dust control measures and their water requirements.

SSA-220

See response to comment SSA-133.

Because blowing sand is not a demonstrated element in wind erosion processes at Salton Sea, sand fences will not be effective in most areas. They would be useful only in limited situations where there is an actual source of blowing sand.

SSA-220 cont.

AQ-156 Appendix H-3, Page H3-28, Paragraph 3
Creation of a halite salt crust from Salton Sea water has already been tested and demonstrated at the Agrarian Research Pilot Study site. That study was completed in 2003, but the resulting salt cap was not investigated in the DRI study and is not even mentioned in the PEIR.

SSA-221

AQ-157 Appendix H-3, Page H3-33, Paragraph 5 and Table H3-3
This is the first reference in the PEIR to the assumed vegetation cover for the water efficient vegetation dust control measure. Has this planting density and the resulting 22% ground cover factor) been tested for dust control effectiveness at Owens Lake or elsewhere? If so, did it achieve the assumed 95% control effectiveness under all wind speeds?

SSA-222

AQ-158 Appendix H-3, Page H3-39, Paragraph 1
The text statement that "this measure does not meet performance criteria established for the alternatives" must be substantiated by clear evidence that the measure's performance has been thoroughly investigated. Do agencies with direct knowledge of halite salt crust dynamics concur that stabilization with brine has not been proven to be effective (*see Comments 30 and 31*)? Has the PEIR team evaluated the effectiveness of the salt cap produced at the Agrarian Research pilot project site?

SSA-223

AQ-159 Appendix H-3, Page H3-39, Paragraph 2
The comparison of Salton Sea conditions to "meteorological triggers" at Owens Lake is only relevant where the expected salt chemistry at Salton Sea will be similar to that at Owens Lake. The meteorological triggers at Owens Lake are irrelevant to halite salt crusts. The Agrarian Research pilot project site is a true test of these meteorological triggers at Salton Sea, and there is no evidence that the PEIR evaluated the performance of this salt cap. Based on water chemistry, the seasonal thin efflorescent salt crusts along the southern shoreline of Salton Sea are an anomaly, and are not representative of the crusts that would be deposited by saturated brine in the brine sink areas. The Agrarian Research pilot study site is much more relevant to the expected composition and stability of crusts that would form around the brine sink features of the various alternatives.

SSA-224

AQ-160 Appendix H-3, Page H3-39, Paragraph 4
According to Table 3-3 in the PEIR text, brine sink salinity will exceed 200,000 mg/L in Phase 2 for all alternatives, and would exceed 300,000 mg/L (approaching or perhaps be at saturation) under Alternatives 3, 5, 6, 7, and 8. Based on both Appendix B of Attachment E9 and the practical experience at the Agrarian Research pilot project site, a stable halite salt crust would be expected under these alternatives as the level of the brine sink recedes further.

SSA-225

AQ-161 Appendix H-3, Page H3-51, Paragraph 2
Sprinkler application of brine would encounter a host of problems, including equipment clogging and fouling and serious salt spray drift issues. Depending on location, salt spray drift may or may not be a serious problem for adjacent areas. The enhanced evaporation system test program conducted by the Bureau of Reclamation and Salton Sea Authority at the Navy Test Base site provides a practical lesson in the difficulties encountered when trying to operate spray equipment with Salton Sea water. While fouling and clogging of water intake systems had solutions, mist fouling of spray equipment systems was a major problem with no readily apparent solution other than frequent equipment maintenance operations. Simple surface irrigation methods may be more practical than spray application methods.

SSA-226

AQ-162 Appendix H-3, Page H3-56, Paragraph 8 (bullet item 2)

SSA-227

SSA (cont.)

SSA-221

See response to comments SSA-16, SSA-184, and SSA-196.

SSA-222

See response to comment SSA-129.

SSA-223

See response to comments SSA-14, SSA-16, SSA-184, and SSA-196.

SSA-224

See response to comments SSA-16, SSA-80, SSA-86, SSA-184, and SSA-196.

SSA-225

See response to comments SSA-14 and SSA-16.

SSA-226

In Appendix H, page H3-51, a discussion begins as follows, “An alternative configuration of brine water irrigation facilities would supply water at lower pressure from a network of surface outlets. From there, water would flow by gravity on the ground surface and spread across the playa. The objective would again be to supply salt required for rebuilding of salt crust.” See response to comment SSA-14.

SSA-227

See response to comment SSA-129. If sand motion proves to be poorly correlated with playa emissions at the Salton Sea, an alternative means of monitoring for emissions should be employed.

The DRI study noted that blowing sand is generally not an issue at Salton Sea. Consequently, sand motion monitoring stations may not be necessary unless blowing sand is verified by other monitoring.

AQ-163 Chapter 10 and Appendix E
Regarding: Managed vegetation as a mitigation measure. The GBUAPCD website indicates that managed vegetation is used as a control measure on only a single contiguous 3.8 square mile portion of the Owens Lake playa, and that other control measures are either used or planned for the remaining 39.2 square miles that require dust control. Moreover, the recently negotiated settlement between GBUAPCD and LADWP for supplemental controls measures does not propose to use managed vegetation as a control measure. The GBUAPCD website also indicates that approximately half of the existing managed vegetation area failed to meet the 50% cover requirement specified in the 2003 Owens Valley PM10 SIP. The evaluation of air quality mitigation measures in the PEIR needs to discuss the reasons that managed vegetation is no longer being used as a control measure at Owens Lake for areas outside the initial managed vegetation program area.

AQ-164 Chapter 10 and Appendix E, especially Attachment E9.
Comparisons between Salton Sea and Great Salt Lake. The PEIR needs to recognize that even very early analyses of Salton Sea water chemistry recognized the similarity between Salton Sea and Great Salt Lake. Early water quality studies conducted after the 1905 flooding event clearly recognized the similarity between the Salton Sea and Great Salt Lake (Ross, 1915). Even though the current Salton Sea was formed by Colorado River water, as early as 1907 the composition of the Salton Sea was more similar to that of Great Salt Lake and ocean water than it was to the Colorado River. Ross concluded that the more ancient Salton Sea (Lake Cahuilla) had a relative salt composition essentially the same as ocean water. The Ross (1915) document is available on the Redlands Institute Salton Sea Database website (www.institute.redlands.edu/salton/ligrary.html).

AQ-165 Chapter 10 and Appendix E, especially Attachment E9.
Comparisons between Salton Sea and Great Salt Lake. The composition of the salt deposit that was present on the floor of the Salton Sink prior to the 1905 flooding event that created the current Salton Sea also showed more similarities to Great Salt Lake than to carbonate and suflate dominated systems at Mono Lake,Owens Lake, or Searles Lake. An 1891 flooding event left a surface salt deposit that was mined commercially. A test core drilled through that salt deposit revealed that is was predominantly sodium chloride and magnesium chloride salts (Carpelan 1961). The Carpelan (1961) document is available on the Redlands Institute Salton Sea Database website (www.institute.redlands.edu/salton/ligrary.html).

Comments Addressing Concerns About Alternative 7

C-1. Concerns Regarding Air Quality Impacts of Mid-Sea Barrier. Concerns have been expressed regarding the air quality impacts (dust and diesel exhaust) related to the transportation of the large amounts of rock and gravel needed to construct a mid-Sea barrier. The SSA Plan (Attached as Attachment 10) mitigates most of these impacts by the proposed construction and use of a conveyor system that could incorporate an electric train. Since the rock would be transported from a higher elevation to a lower elevation, electrical generators could be incorporated into the train's braking system, allowing for energy to be captured as the train descends to the Sea. The return of the empty railcars could then be powered by this stored energy, essentially eliminating any emissions related to the transport of the rock to the Sea.

C-2. Concerns Regarding Impacts to Desert Tortoise and Big Horn Sheep Habitat from Mining Related to Mid-Sea Barrier. It is unknown at this time whether the potential mining sources for the mid-Sea barrier would be within habitat for the Big Horn Sheep (Coolidge Mountain area) or the Desert Tortoise (Eagle Mountain area). Biological surveys would be conducted at the project level environmental analysis, and if habitat is found in the chosen mining

SSA-227 cont.

SSA-228

SSA-229

SSA-230

SSA-231

SSA (cont.)

SSA-228

Managed vegetation continues to be the control measure of choice on 3.5 square miles of the Owens Playa. It complies with current regulatory requirements. See response to comment SSA-129.

SSA-229

See response to comment SSA-88. The Salton Sea has a significantly higher sulfate concentration than the Great Salt Lake, which relates to the concern about sulfate salt efflorescence and dust emissions potential.

SSA-230

See response to comments SSA-88 and SSA-229.

SSA-231

The comments provided under the heading "Comments Addressing Concerns About Alternative 7" are intended to respond to concerns expressed by others regarding the Alternative 7. These do not represent comments on the Draft PEIR. Therefore responses are not provided in this Final PEIR.

SSA (cont.)

location, mitigation would be incorporated in consultation with USFWS and CDFG. It is common for projects to occur within habitats for these species with appropriate mitigation.

C-3. Concerns Regarding Flexibility of the SSA Plan. Concerns have been expressed regarding the inflexibility of the mid-Sea barrier once it is constructed. The SSA Plan incorporates other flexibilities to accommodate changes in water inflows such as the ability to change the water level of the Recreational Saltwater Lake, the Recreational Estuary Lake, and to prioritize river inflows to the SHC as needed.

C-4. Concerns Regarding Impacts to Shoreline Nesting Birds from Recreational Watercraft. The SSA could include a 200-300 foot no-wake zone around the edge of the recreational lakes to decrease any impacts that may be projected to result from recreational uses of the Recreational Saltwater Lake and the Recreational Estuary Lake.

C-5. Feasibility of SSA-Proposed Water Treatment Facilities. We are currently collecting pilot scale data to evaluate the effectiveness of the proposed treatment systems for use in simulating the treatment processes in the water quality model currently under development. Preliminary results of this study are included here as Attachment 6. The model will allow a more definitive estimate of required flow rates through the H_2S removal system which in turn will provide refined information of plant construction and operational cost. Likewise the model will be used to evaluate the effectiveness of reducing phosphorous loads from the Alamo River and the corresponding required levels of treatment.

The current estimates of the treatment plant capacities and costs were prepared by the previous Salton Sea Authority Executive Director. Among other sources, a full-scale pilot treatment plant constructed in the Everglades to treat agricultural runoff was used as a basis for developing the capacities and cost estimates. Sludge disposal is often one of the most costly components in treatment plant construction. For the Salton Sea project, it was assumed that sludge disposal could be accomplished in the brine pool and thus costs could be minimized. The basis for the cost estimates are provided in the Salton Sea Authority Revitalization Plan document. When the on-going model studies are complete, a conceptual design and cost estimation task will be performed which will better to refine the current cost estimated and better respond to this question.

C-6. Concerns Regarding Sufficient Energy Being Available to Meet SSA Plan's Requirements. A detailed energy study has not been conducted. However, the plants will be constructed in the vicinity of the geothermal resource area at the south end of the Sea. This is a large energy resource and it was assumed that geothermal energy sources could be developed to support the project. The conceptual design studies discussed in the previous response will include estimates of energy requirements and consideration of energy sources. The previous Salton Sea Authority Executive Director estimated the combined O&M cost, including energy, for the two proposed treatment plants at $44.5 million/year.

C-7. Concerns Regarding Length of Time to Construct the SSA Plan. The equipment used to construct the embankments will be large heavy construction barges that will not be hindered by the inhospitable or adverse Sea conditions. Construction of large breakwater systems such as those that enclose the combined Los Angeles/Long Beach harbors are accomplished in much higher ocean wave environments. The construction of the various infrastructure components will be undertaken concurrently to compress the construction period. Placement of the nearly 30 million cubic yards of rock in the cross-Sea embankment will be one of the largest components. With a placement rate of 25,000 cubic yards/day, 3 to 4 years would be required to complete the embankment.

C-8. Concerns Regarding Effects of Excavation of Sediments on Long-Term Water Quality. If the State's inflow projections are correct, by the time construction is complete, regardless of which alternative is selected, it is likely that the water quality in the Sea will be significantly

SSA-231 cont.

SSA (cont.)

SSA-231 cont.

degraded from where it is today. Concentrations of salinity will be too high to sustain the current fish populations and other contaminants will further concentrate in the shrinking Sea. Therefore, temporary disturbance from construction will likely take place in a largely anoxic water body and should minimal habitat effects. Excavated sediments will be placed on the upstream face of the embankment structures to form a silt blanket which will serve as an additional barrier against seepage. It will take several years for water quality conditions to improve to where a fishery can be re-established. This should allow ample time for the sediments to settle and res-establish themselves as a stable layer.

The hydrodynamic and water quality model currently under development will provide additional insight related to this question. The model is capable of simulation the pseudo load of bed materials, sediments, organics and contaminate into the water column due to construction activity. Since the model will be capable of simulation on multi-year time scales, the transport and fate of theses materials and there impact on water quality could be determined.

C-9. Concerns Regarding Finding a Contractor with Sufficient Capacity to Construct the SSA Plan. For projects of this magnitude, the construction is typically broken up into multiple bid packages. This is to allow construction to get started early on some of the items that require less design time, as well as to allow multiple contractors with sufficient bonding capacity to prepare competitive bids. With the multiple packages, there should be sufficient construction firms that could handle the packages. This approach was used for the Diamond Valley Reservoir project which required placement of more than 100 million cubic yards of material, more than the Authority's current estimate of about 65 million cubic yards for the Salton Sea project.

C-11. Concerns Regarding the SSA Plan's Ability to Function with Variable Flows. The hydrodynamic and water quality model will provide a tool for evaluating the impacts for future inflow condition. Model results using the Salton Sea Accounting model suggest that typical annual fluctuations in inflow will result in seasonal variations of the lake level of about one foot within the lake. The Authority does not believe that long term inflow projections under 640,000 acre-feet/year are reasonable given the current water rights in the Imperial Valley.

C-12. Concerns Regarding How Higher than Average Inflows Would Affect the Stability of the Salt Crust Alongside the Brine Pool. Crystallized salt deposits will dissolve only if in contact with water that is not yet saturated with dissolve salts. The brine pool will be at saturation, so increasing the inflow to the brine pool will merely transport saturated or nearly saturated brine to the surrounding salt deposits. Higher than average inflows to the brine pool would simply result in additional salt crystallization as the added brine evaporates.

Annual flooding of the Bonneville Salt Flats from desert storms does not remove the permanent salt crust. In fact, such annual flooding helps maintain the integrity of the salt flat by dissolving and then re-depositing cemented halite at the salt flat surface. Precipitation inputs simply help maintain the moisture content of the saline sediments underneath the salt deposits, allowing natural evaporation processes to maintain the salt crust.

Even when wet, the permanent salt crust at Bonneville Salt Flats has considerable structural strength. Test conducted at Bonneville Salt Flats showed that even when saturated, the main portion of the Bonneville Salt Flats can support travel by 33-ton tractor-trailer rigs without appreciable rutting.

Brine application to an established halite salt crust serves primarily to add more salt to the system, either as part of the salt crust itself or in the saturated brine found in sediments under the salt crust. This has been demonstrated at Bonneville Salt Flats. Brine extracted from the playa sediments under the Bonneville Salt Flats has been used for commercial potash production for many decades. Studies conducted between 1960 and 1988 showed that this brine extraction had reduced of the original salt flat acreage and salt flat thickness. The Bureau of Land Management conducted a 5-year test program from 1997 to 2002 to help restore the salt deposits. This test

SSA (cont.)

SSA-231 cont.

program demonstrated that halite precipitated in concentration ponds during the potash production process could be re-dissolved and returned to the salt flats. The amount of salt returned to the Bonneville Salt Flat system during the 5-year test program (an average of 1.2 million tons per year) exceeded the amount removed in brine pumped from the playa sediments for potash production (an average of 0.85 million tons per year). The replenishment program operated from November through April of each fiscal year. Approximately 19,192 acre-feet (6.3 billion gallons) of brine were delivered to the salt flats during the 5-year replenishment program (15,857 hours of pumping). In addition to increasing the thickness of the existing salt crust, the project resulted in about 5 square miles (3,200 acres) of new salt crust formation. Increased inflows to the brine pool at the Salton Sea would simply add brine to the adjacent salt deposits, resulting in additional salt deposition when the water in the brine evaporates. This is the equivalent of the brine replenishment tests conducted at the Bonneville Salt Flats.

References for Bonneville Salt Flat replenishment project:

White, W. W. III and Wadsworth, Glenn D. 2001. Salt Laydown Project – Bonneville Salt Flats: 1997 – 1999 Progress Report. Document downloaded from BLM website (www.ut.blm.gov/wh3bsfsalt.html) on November 14, 2006.

White, W. W. III. 2002. Salt Laydown Project: Replenishment of Salt to the Bonneville Salt Flats. Pages 433 – 486 in J. Wallace Gwynn, ed., Great Salt Lake: An Overview of Change. Special Publication of the Utah Department of Natural Resources, Utah Geological Survey. Document downloaded from BLM website (www.ut.blm.gov/wh3bsfsalt.html) on November 14, 2006.

White, W. W. III. 2004. Replenishment of Salt to the Bonneville Salt Flats: Results of a 5-Year Experimental Salt Laydown Project. Pages 243 – 262 in S. B. Castor, K. G. Papke, and R. O. Meeuwig, eds., Betting on Industrial Minerals, Proceedings of the 39th Forum on the Geology of Industrial Minerals, May 19 – 21, 2003, Sparks, Nevada. Nevada Bureau of Mines and Geology Special Publication 33. Document downloaded from BLM website (www.ut.blm.gov/wh3bsfsalt.html) on November 14, 2006.

White, W. W. III. 2004. Appendices for Replenishment of Salt to the Bonneville Salt Flats: Results of a 5-Year Experimental Salt Laydown Project. Document downloaded from BLM website (www.ut.blm.gov/wh3bsfsalt.html) on November 14, 2006.

C-13. Concerns Regarding Feasibility of Pumping Salton Sea Water at a Large Scale. The West Desert Pumping Project in Utah involved a pumping station with three 1,000 cfs pumps (646 mgd each) with a total maximum capacity of about 2.2 million acre-feet/year. The West Desert Pumping Project moved 2.7 million acre-feet of highly saline water containing 695 million tons of salt from the Great Salt Lake to the Newfoundland Evaporation Basin at the north end of the Bonneville Salt Flats over a 26-month period. The Great Salt Lake has higher salinity levels than the Salton Sea. Clearly, pumping large volumes of highly saline water is technically feasible.

Tetra Tech recently designed a pumping plant for stormwater with a capacity of 1,400 cfs (> 1 million acre-feet/year) with a head capacity of 35 feet. The plant had unusual excavation requirements and was constructed for $50 million. We have assumed a capacity of 900 cfs (650,000 acre-feet/year) for the Salton Sea plant with a head of about 10 or 15 feet at a cost of about $30 million.

Seawater is commonly used as a coolant for coastal power plants such as the nuclear plant in San Onofre, CA. Special coatings are used on the impellors and pipelines to avoid fowling.

The BLM salt replenishment project at Bonneville Salt Flats operated 24-hours per day for 15 – 20 days per month, 5 months a year during 1st, 4th, and 5th years of the 5-year replenishment project, and operated 24-hours per day continuously for 5 months a year during the 2nd and 3rd years of the study. The brine being pumped for the salt replenishment program typically had a salt concentration of 20% or somewhat higher.

SSA (cont.)

The initial problems with barnacle growths at the Salton Sea enhanced evaporation study site were due in part to the location of the intake system: at an old pier site that has significant use by brown pelicans and other birds. Droppings from these birds increased the nutrient level of surrounding waters, resulting in high barnacle productivity. Barnacle problems at the Agrarian Research site were much less serious than those at the test base site. Barnacle fouling issues at the test base site were effectively controlled by use of a commercial system (Radient Energy Forces system from Water Savers Worldwide).

SSA-231 cont.

The Agrarian Research salt concentration pond pilot study at the Salton Sea did not experience serious fouling or corrosion problems. The lack of such problems at the Agrarian Research site may have been due in part to intermittent rather than continuous pumping, and in part to lower nutrient levels and lower barnacle growth rates at the Bombay Beach site compared to the test base site.

Reference for information on West Desert Pumping Project at Great Salt Lake:

http://water.utah.gov/construction/qsl/index.htm