

# **NOTICE OF PREPARATION**

## **OF**

### **A PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT FOR THE RESTORATION OF THE SALTON SEA ECOSYSTEM AND PRESERVATION OF ITS FISH AND WILDLIFE RESOURCES**

#### **INTRODUCTION**

Pursuant to the Quantification Settlement Agreement (QSA) implementing legislation the California Department of Water Resources (DWR) and the California Department of Fish and Game (DFG), will prepare a Programmatic Environmental Impact Report (PEIR) on behalf of the Resources Agency for restoration of the Salton Sea ecosystem and preservation of its fish and wildlife resources. The PEIR will be prepared in compliance with California Environmental Quality Act (CEQA) requirements (California Public Resources Code Section 21000 *et seq.*)

The PEIR will be completed by December 2006, as required by the QSA implementing legislation. DWR and DFG will act as co-lead agencies under CEQA for the purposes of preparing the PEIR.

As required by Section 15082 of the State CEQA Guidelines, DWR and DFG are submitting this Notice of Preparation (NOP) to responsible, trustee, and other key agencies, involved federal agencies, private organizations, and interested individuals to invite specific comments on the scope and content of the PEIR. Public scoping meetings will be held at several locations throughout California to solicit additional comments and input on the preparation of the PEIR. Meeting locations are specified at the end of this NOP.

#### **BACKGROUND**

The Salton Sea is a hypersaline, eutrophic (nutrient-rich) lake located in a closed desert basin in Riverside and Imperial Counties in Southern California, south of Indio and north of El Centro (Figure 1). The Alamo and New Rivers flow into the Sea from the south and the Whitewater River flows into the Sea from the north. The Sea, the largest inland body of water in California, is located in the Salton Trough. The Sea has been designated by the federal government as a repository for surface and subsurface agricultural drainage in support of the nearly \$1.5 billion per year agricultural industry in the Imperial and Coachella Valleys. The only outflow from the Sea is evaporation – it has no natural outlet. Each year, inflows to the Sea contribute about 4 million tons of salts. Because it is a terminal body of water, its salinity continues to increase as salts are left behind when water evaporates from its surface. The Sea's current salinity concentration is about 44,000 milligrams per liter (mg/L), or about 25 percent saltier than ocean water.

Historical and pre-historical information and geologic data have shown that the Colorado River has spilled into the Salton Trough on numerous occasions over the last thousand years. At various times the trough has been occupied by salt flats, wetlands, or intermittent lakes of varying salinity. The current Sea was formed in 1905-07 when a diversion structure failure along the Colorado River caused flows from the river to enter the basin for about 18 months. Since then, the Sea has been primarily sustained by continued

agricultural drainage from the Imperial, Coachella, and Mexicali Valleys and by smaller contributions from municipal and stormwater runoff. At present, the Sea is about 35 miles long and 15 miles wide with a surface area of approximately 367 square miles. It currently has a surface elevation of about 228 feet below mean sea level.

The Sea and surrounding habitats are home for several threatened and endangered species and species of special management concern including the desert pupfish, brown pelican, California least tern, willow flycatcher, Least Bell's vireo, and Yuma clapper rail. The combination of deep-water marine environment, wetlands, shorelines, desert scrub, riparian cottonwood/willow habitat and surrounding agricultural lands support more than 400 species of birds and provide important migratory and resident bird habitat within the Pacific Flyway. The Salton Sea ecosystem is unique for its juxtaposition of water-based habitats with extensive agricultural lands that provide bird feeding and resting areas. The Sea and surrounding habitats are considered one of the richest avifauna areas in the world.

The Salton Sea is under considerable stress from increasing salinity, nutrient loading, oxygen depletion, and temperature fluctuations that may be threatening the reproductive ability of some biota (particularly fish species) and causing additional ecosystem health problems. There are also indications that the deteriorating environmental conditions may be contributing to the prominence of avian disease at the Sea. Without intervention, the ecosystem at the Sea will continue to change in response to these stresses.

## **FEDERAL AND STATE INVOLVEMENT**

The California Legislature and Congress have both enacted legislation stating that restoration of the Salton Sea is of state and national interest. In 1992, Congress passed the Reclamation Projects Authorization and Adjustment Act (Public Law 102-575) that directed the Secretary of Interior to "conduct a research project for the development of a method or combination of methods to reduce and control salinity, provide endangered species habitat, enhance fisheries, and protect human recreational values . . . in the area of the Salton Sea."

The Salton Sea Reclamation Act of 1998, PL 105-372, was enacted by Congress to further the restoration process. That law directed the Secretary to "complete studies including . . . environmental and other reviews, of the feasibility and benefit-cost of various options" to avoid further deterioration of the internationally significant habitat and wildlife values of the Salton Sea and to protect the wide array of economic and social values that exist in the immediate vicinity of the Sea.

In 2003, the Colorado River Quantification Settlement Agreement (QSA) was signed by Imperial Irrigation District (IID), Coachella Valley Water District (CVWD) and Metropolitan Water District of Southern California (MWD) to settle long-standing disputes among the local water agencies regarding their use of California's interstate apportionment of Colorado River water. The QSA and more than 30 related agreements cover intrastate management of Colorado River water, allow California to have access to special surplus water for a 15-year period, and provide for specified water transfers. The QSA and related agreements are the mechanism by which the local water agencies are reducing their use of Colorado River water to California's basic interstate apportionment of 4.4 million acre-feet annually. QSA water transfers – from IID to SDCWA and to CVWD – will reduce the inflows of agricultural runoff that constitute the Sea's chief source of fresh water.

State legislation to implement the QSA was enacted in 2003. The legislation is contained in three bills – SB 277 (Ducheny), SB 317 (Kuehl), and SB 654 (Machado). Among other things, the legislation establishes State policy with respect to the Salton Sea, stating “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 fish and wildlife dependent on that ecosystem”. The legislation also provides that “no further funding obligations or in-kind contributions of any kind for restoration of the Salton Sea shall be required of the IID, the CVWD, the MWD, and the SDCWA, including federal cost-sharing or other federal requirements. Any future actions to restore the Salton Sea will be the sole responsibility of the State of California”. Additionally, IID is held harmless from Salton Sea impacts resulting from transfers of conserved water.

The three local agencies (CVWD, IID, and San Diego County Water Authority [SDCWA]) are to contribute \$30 million to a Salton Sea Restoration Fund managed by DFG. Monies in the fund are to be used for implementing conservation measures to protect the fish and wildlife resources dependent on the Sea. The geographic scope of the conservation measures is limited to the Salton Sea and lower Colorado River ecosystem, including the Colorado River Delta in Mexico.

The legislation tasks DWR with purchasing up to 1.6 MAF of Colorado River water from IID and selling the water to MWD, under specified terms. Proceeds from sale of the water are to go to the Salton Sea Restoration Fund. The Resources Secretary is directed to prepare a Salton Sea ecosystem restoration study and a programmatic environmental document by the end of 2006. The study, to be conducted in consultation with a legislatively mandated advisory committee and with the Salton Sea Authority (SSA), is to include a proposed funding plan for implementing the preferred alternative.

## **PROJECT DESCRIPTION**

In compliance with the QSA implementing legislation, the Resources Secretary will identify a preferred alternative for restoring the Salton Sea ecosystem and permanently protecting the fish and wildlife dependent on the ecosystem. The implementing legislation requires that “the preferred alternative shall provide to the maximum extent 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; and (3) Protection of water quality.” The PEIR will describe the ecological values the ecosystem currently provides and evaluate the potential loss of certain values as a result of factors such as hypersalinity, eutrophication, and reduced inflows. The PEIR will analyze a wide range of alternatives including, but not limited to, a “No Project” alternative, Partial-Sea restoration alternatives, and Habitat Enhancement alternatives.

Many concepts to address the Sea’s rising salinity have been proposed in prior studies. Whole-Sea restoration alternatives were evaluated in a January 2000 Draft Environmental Impact Statement and Environmental Impact Report by the United States Bureau of Reclamation (USBR) and the SSA, and in a January 2003 Salton Sea Status Report by USBR. Whole-Sea restoration approaches would seek to restore and maintain the historical characteristics of the entire Sea. These potential concepts may be considered in the PEIR; however, the PEIR will not duplicate past federal studies but will instead

incorporate that information into the PEIR by reference (State CEQA Guidelines Section 15150). A brief summary of whole-Sea restoration alternatives studied pursuant to the 1998 federal legislation is attached.

There have also been conceptual proposals for Partial-Sea restoration alternatives, although these proposals have not been analyzed at the level of detail used for the Whole-Sea alternatives. Partial-Sea approaches would alter the Sea by constructing dikes or embankments to divide the present water body into subunits designed to provide ecological or functional values such as depositories for brine and other byproducts of restoration. In concept, part(s) of the present sea would be maintained at near-marine salinities, while the remainder of the present seabed would be converted to a mixture of areas such as wetlands, riparian corridors, salt flats, mudflats, salt evaporation ponds, or brine disposal ponds. Partial-Sea approaches might entail use of desalination technology or water transfers to make a portion of Sea inflows available for sale to urban water users, to generate revenues for carrying out restoration work. Partial-Sea approaches would entail extensive construction of features such as dikes or embankments, water conveyance and control infrastructure, and byproduct disposal areas.

Habitat Enhancement alternatives would seek to identify, protect and enhance valuable habitats that support federal and State-listed species, species of special concern, and other key species that depend on the Sea and its surrounding environs. The habitats protected or enhanced would be located in the Salton Sea and lower Colorado River ecosystems as specified in the legislation. Habitat types incorporated in the alternatives could include deep-water hypersaline or marine environments, varied shoreline environments, shallow-water wetlands, riparian and freshwater marsh, native fish refugia, uplands, or agricultural lands. Habitat Enhancement approaches could include acquisition of land from willing sellers for conversion to habitat, acquisition of conservation easements to ensure continued agricultural land uses, and construction of features needed to sustain the desired habitat values. Habitat Enhancement approaches might entail use of water transfers to make a portion of Sea inflows available for sale to urban water users, to generate revenues for carrying out restoration work. Some elements of Habitat Enhancement alternatives, such as use of constructed wetlands, will likely be common among most of the PEIR's alternatives.

The PEIR will evaluate phased or staged implementation of potential alternatives, and will display the incremental benefits gained from varying levels of ecosystem restoration.

## **ACTIONS BY OTHERS**

Other parties are taking actions that could influence the design of the PEIR's ecosystem restoration alternatives or affect implementation of potential alternatives. Some of these related projects and programs are described below:

- Local Agency QSA Mitigation Actions: SDCWA, IID, and CVWD intend to obtain take authorization for the QSA water transfers through preparation of a federal Habitat Conservation Plan and state Natural Communities Conservation Plan. Mitigation measures incorporated in these plans and in the agencies' compliance with CEQA and State Water Resources Control Board requirements for the water transfers will include actions to benefit selected species within the Salton Sea and lower Colorado River ecosystems.

- Lower Colorado River Multi-Species Conservation Plan: Colorado River water and power users in Arizona, California, and Nevada have been working with the state and federal resource agencies to develop a plan for compliance with Endangered Species Act and California Endangered Species Act requirements in regard to ongoing Colorado River operations. Compliance measures in the plan will include actions to benefit selected species within the Salton Sea and lower Colorado River ecosystems.
- Constructed Wetlands: Local agencies and environmental groups have constructed pilot wetlands along the New and Alamo Rivers. Expansion of constructed wetland projects in Imperial Valley could improve the quality of water flowing into the Sea, but would also cause some reduction of inflows.
- Total Maximum Daily Load Program: This program being implemented by the Regional Water Quality Control Board is designed to provide a long-term reduction in key constituents in Sea inflow. Although improving the quality of water that flows into the Sea would be beneficial, it is also possible that TMDL efforts could result in some reduction of inflow.
- Mexicali Wastewater System Improvements: Mexico has been pursuing construction of projects to improve the collection and treatment of wastewater in Mexicali. These projects would improve the quality of water flowing across the international border. Because the Mexicali Valley has insufficient water supplies, it is possible that improving the quality of wastewater could make it attractive for reuse in Mexico. If this occurs in the future, some water now flowing to the Sea from the New River may no longer be discharged to the New River.

## **PROJECT AREA**

The restoration program area includes the Salton Sea and lower Colorado River ecosystems, including the Colorado River Delta in Mexico. Figure 1 depicts the general project area. The PEIR will evaluate ecosystem restoration options within the Colorado River Delta in Mexico. However, the State of California could not implement such actions without the participation of the federal government and without working through the International Boundary and Water Commission.

## **ALTERNATIVES**

CEQA Guidelines Section 15126.6 states that an EIR shall describe a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant adverse environmental effects of the project, and evaluate the merits of the alternatives. An EIR is not required to consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

DWR and DFG will, through the CEQA process, identify a reasonable range of alternatives for implementation of a proposed project. Feasible alternatives that meet most of the basic project objectives and avoid or substantially lessen the significant effects of the project will

Figure 1 - General Project Area



Figure modified from DWR Bulletin 160-98

be explored in response to public and agency input including Notice of Preparation comments, scoping meetings, and subsequent technical and environmental analyses.

DWR and DFG have identified a “No Project” Alternative, which is required under CEQA Guidelines Section 15126 (e), with the following scenario that will be evaluated in the EIR:

- QSA implementation, including reduction of Salton Sea inflows due to QSA-related water transfers, and implementation of QSA-related mitigation measures. No additional projects or actions would be taken by the State under the “No Project” alternative.

## PROBABLE ENVIRONMENTAL IMPACTS

The PEIR will assess physical changes to the environment that would likely occur from restoring the Salton Sea ecosystem and permanently protecting its fish and wildlife resources. The PEIR will address the overall effects of the ecosystem restoration program on water resources and biological resources, as well as potential impacts associated with

implementation of the identified alternatives. The analysis itself will be conducted at a program level of detail. The PEIR will include a description of the environmental setting and a discussion of potential impacts from physical changes for each resource category included in Appendix G of the CEQA Guidelines. The PEIR will develop mitigation measures to reduce or eliminate the impacts of implementing the identified alternatives.

The following section summarizes potential impacts associated with implementing the alternatives or concepts that were discussed previously.

### **Aesthetics**

Construction activities could temporarily affect local aesthetics. Once completed, actions such as construction of evaporation ponds, salt mounds, pipelines, salt flats, or dikes could affect scenic viewsheds. The PEIR will identify scenic vistas and evaluate potential effects on local and long-range views of proposed actions.

### **Agriculture Resources**

The federal government's designation of the Sea as a repository for agricultural runoff will be unchanged by actions evaluated in the PEIR. Current agricultural resources or operations and land uses may be impacted positively or negatively by potential actions described in the PEIR. The PEIR will identify the impact on agriculture from implementation of the proposed actions.

### **Air Quality**

Implementation of a preferred program and associated actions could result in emissions of pollutants. Creation of salt flats in the Partial-Sea alternatives could result in airborne particulate matter. The PEIR will estimate the amount of new pollutant emissions associated with proposed actions.

### **Biological Resources**

The restoration will include measures to protect and, where possible, improve habitats for targeted species. Construction and operation of the proposed projects could potentially affect biological resources including sensitive species and habitats. The PEIR will identify sensitive species and habitats in the region and will assess potential effects of proposed actions.

### **Cultural Resources**

Excavation activities or reduction in area covered by the Sea could uncover previously unknown archaeological or paleontological resources. In addition, some proposed actions could affect historical resources. The PEIR will assess potential effects of the proposed actions on cultural resources.

### **Hydrology/Water Quality**

Proposed alternatives will be designed to improve the water quality of the areas planned for possible wildlife habitat. However, changes in the inflow to the Sea and development of wetlands or salt-water marshes could worsen the water quality of parts of the Sea. In

addition, construction activities could entrain sediments into the water column, increasing turbidity or concentrations of constituents such as selenium. The PEIR will assess potential effects of the proposed actions on local hydrology and water quality.

### **Geology and Soils**

The Salton Trough region is highly seismically active. Construction of evaporation ponds, embankments, or pipelines could be subject to potential seismic hazards including shaking and surface rupture. In addition, construction activities could expose soils to wind and water erosion. The area also has extensive geothermal resources whose operation can be enhanced or possibly impacted as a result of the actions taken. The PEIR will evaluate geologic hazards in the region and will develop mitigation measures to reduce potential effects from the proposed actions.

### **Hazards**

Proposed actions may involve the disturbance or use of hazardous materials. The PEIR will evaluate the risk to the public of disturbance or use of hazardous materials.

### **International Impacts**

Proposed actions may have indirect impacts on resources within Mexico. The PEIR will evaluate proposed actions for their effect on Mexico and will develop mitigation measures to reduce potential effects.

### **Land Use/Planning**

Implementation of certain actions may require coordination with and/or approval from local planning agencies. The PEIR will evaluate existing land uses to assess compatibility with other proposed projects or actions.

### **Noise**

Construction activities and implementation of proposed actions could generate noise. The PEIR will evaluate the potential for noise to impact sensitive land uses and biological resources.

### **Public Services and Utilities**

Proposed actions will comply with the QSA, but could result in changes to agricultural water delivery and drainage systems, or could possibly involve export of water to fund restoration work. The PEIR will evaluate potential impacts to regional public services.

### **Recreation**

Some alternatives may impact recreational use of the Sea. Biological resources such as the fisheries or waterfowl could be affected, and other recreational uses of the Sea such as boating and swimming could also be affected. The PEIR will evaluate the potential for proposed actions to affect recreation.

## **Transportation/Traffic**

Construction and implementation of proposed actions could affect traffic and regional transportation plans. The PEIR will evaluate the potential for the projects to affect traffic.

## **SCOPING MEETINGS**

<u>Date</u>	<u>Location</u>
March 16, 2004	Coachella, California
March 17, 2004	El Centro, California
March 18, 2004	San Diego, California
March 22, 2004	Sacramento, California
March 24, 2004	Oakland, California

Specific times and locations of the scoping meetings will be posted on the DWR website at <http://www.water.ca.gov> about two weeks in advance of the scheduled meetings.

## **WRITTEN COMMENTS**

Within 30 days after receiving the Notice of Preparation, each Responsible Agency shall provide the Lead Agency with specific details about the scope, significant environmental issues, reasonable alternatives, and mitigation measures related to the Responsible Agency's area of statutory responsibility that will need to be explored in the Draft PEIR. In accordance with CEQA Guidelines Section 15082(b)(1)(B), responsible and trustee agencies should indicate their respective level of responsibility for the project in their response. Comments on this Notice of Preparation from other federal, State and local governmental agencies, private organizations, and interested individuals will be accepted until April 16, 2004.

Comments from individual respondents, including names and home addresses of respondents, will be made available for public review. Individual respondents may request that their home address be withheld from public disclosure, which we will honor to the extent allowable by law. There may also be circumstances in which we would withhold a respondent's identity from public disclosure, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as affiliated with organizations or businesses, available for public disclosure in their entirety.

Written comments on the scope of the PEIR should be sent to Charles Keene, California Department of Water Resources, 770 Fairmont Avenue, Glendale, California 91203. Telephone number (818) 543-4620.

## Attachment

### Alternatives Studied Pursuant to 1998 Federal Legislation

#### Whole-Sea Restoration Approaches

Alternatives within the Whole-Sea approach fall into two broad categories:

- Exporting water from the Sea and conveying it to ocean discharge via pipelines or canals, and then importing lower-salinity ocean water salinity to the Sea.
- Pumping water out of the Sea and discharging it to local desalting plants or evaporation ponds. This would require disposal of large quantities of salt residues near or within the Sea.

Export/import actions would be designed to help curb the increase in the Sea's salinity, while also stabilizing elevation. These actions include:

- Export Salton Sea water to the Gulf of California, Pacific Ocean, or Palen Dry Lake. Salton Sea water would be conveyed via pipeline to one of these sites. Water from the Gulf of California or Pacific Ocean could then be pumped to the Sea to help stabilize its elevation.
- Import water via Yuma, Arizona. The water would originate as a brine stream as part of a proposed Central Arizona Salinity Interceptor (CASI) project. The CASI project is currently only in a concept stage of development.

Local salt removal and disposal actions would control salt accumulation within the Sea, but would not stabilize the shoreline elevation. The actions include:

- In-Sea Ponds: A series of shallow, in-Sea solar ponds would be constructed and Salton Sea water would be pumped in to them. Water would flow by gravity through successively more saline ponds, and the saturated brine would eventually be pumped to an in-Sea salt disposal site.
- Ground-Based Enhanced Evaporation Systems (EES): This would involve spraying water in the air by ground-based blowers to accelerate the rate of evaporation. These would be used in conjunction with a series of evaporation ponds located on land instead of within the Sea. After passing through the evaporation units and ponds, concentrated brine would be piped to an off-site, on-land salt disposal facility.
- Tower-Based Enhanced Evaporation System: An on-land EES tower system would spray water from nozzles attached to hoses extending between 80- to 130-foot high towers to evaporate Sea water. Salt would be disposed of at an on-land facility.
- In-Sea and On-Land Ponds: This would utilize a combination of in-Sea solar ponds with in-Sea disposal, and on-land solar ponds with an on-land disposal facility.

- On-Land Ponds: Solar ponds with on-land salt disposal facilities would be constructed a distance from the Sea.
- Desalination: Desalination plants using vertical tube evaporation (VTE) technology would be constructed to desalt Sea water near the Sea's south end. Desalination could produce replacement water for the Sea or for sale to urban areas.