



San Diego County Water Authority

4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

April 13, 2015

VIA EMAIL

MEMBER AGENCIES

- Carlsbad
Municipal Water District
- City of Del Mar
- City of Escondido
- City of National City
- City of Oceanside
- City of Poway
- City of San Diego
- Fallbrook
Public Utility District
- Helix Water District
- Lakeside Water District
- Olivenhain
Municipal Water District
- Otay Water District
- Padre Dam
Municipal Water District
- Camp Pendleton
Marine Corps Base
- Rainbow
Municipal Water District
- Ramona
Municipal Water District
- Rincon del Diablo
Municipal Water District
- San Dieguito Water District
- Santa Fe Irrigation District
- South Bay Irrigation District
- Vallecitos Water District
- Valley Center
Municipal Water District
- Vista Irrigation District
- Yuima
Municipal Water District

Carole D’Elia
Executive Director
Little Hoover Commission
925 L Street, Suite 805
Sacramento, CA 95814
carole.d’elia@lhc.ca.gov

RE: Statement of the Water Authority for April 28, 2015, Little Hoover Commission Public Hearing Regarding State’s Salton Sea Environmental Mitigation and Restoration

Dear Ms. D’Elia:

In response to your invitation to testify at the Little Hoover Commission’s April 28, 2015 public hearing on the Salton Sea, please find attached written testimony from the Water Authority. At the hearing, Brad Herrema, special counsel for the Water Authority, will present a summary of the Authority’s comments.

Please contact me at the phone number shown above if there are any questions about this submittal.

Sincerely,

Maureen A. Stapleton
General Manager

cc: Krystal Beckham, Research Analyst (Krystal.Beckham@lhc.ca.gov)

Enclosures: Water Authority Written Testimony
Speaker Bio

OTHER REPRESENTATIVE

County of San Diego

**Statement of the Water Authority for April 28, 2015, Little Hoover
Commission Public Hearing Regarding State's Salton Sea Environmental
Mitigation and Restoration**

I. Introduction

The San Diego County Water Authority (Water Authority) respectfully submits these written comments to the Little Hoover Commission (Commission) for consideration at its April 28, 2015, Public Hearing Regarding the State's Salton Sea Environmental Mitigation and Restoration. This hearing arises from the request of Assemblymember Eduardo Garcia that the Commission review and make recommendations as to how the State can best advance and pay for a comprehensive environmental mitigation and restoration strategy for the Salton Sea.

The Water Authority has continuously and unfailingly supported the restoration of the Salton Sea. This position has remained unchanged since water transfers from the Imperial Valley to the San Diego region were first discussed nearly two decades ago. The Water Authority is supportive of action by the State of California to fulfill its Salton Sea restoration obligations and expeditiously develop a path forward that permanently addresses the potential long-term health and environmental impacts to the communities surrounding the Sea. However, the Water Authority believes the discussions relative to the state's obligations with regard to "restoration" must be clearly and definitively be distinguished from "mitigating" the impacts of the historic Colorado River Quantification Settlement Agreement (QSA) water transfers¹. The Water Authority, as a member of the QSA Joint Powers Authority (JPA) and by virtue of QSA-enabling legislation, is responsible for mitigating the discrete impacts the QSA water transfers have on the Salton Sea; the State is responsible for restoring the Sea to some practical and economically feasible level. While mitigation efforts accomplished in the short-term will undeniably serve to strengthen a larger State restoration effort, the two are separate and apart by virtue of public law and State legislation.

Calls for Salton Sea restoration predate the QSA water transfers and restoration has been a policy issue spanning many Administrations and encompassing decades worth of input from the Legislature. As a result of the water right approvals granted by the State Water Resources Control Board (SWRCB or State Water Board) to perfect the QSA water transfers, environmental mitigation obligations were imposed upon the parties involved. For more than a decade, those parties have mitigated, and continue to fully mitigate, any and all environmental impacts associated with the water transfers. Since 2003, the Water Authority has faithfully

¹ The term "QSA water transfers" refers to those approved by the State Water Board in Revised Order WRO 2002-0013, which authorized both the 200,000 AFY water transfer from IID to SDCWA and the 100,000 AFY water acquisitions from IID to CVWD or MWD, as described below in the section titled, IID-SDCWA Transfer Water Agreement and History of State Water Board Order.

mitigated the impacts of the QSA water transfers, including effects on the Salton Sea. While the State has had considerable time and discretion to build upon these mitigation projects, by all accounts, it has utterly failed to accomplish anything other than an unfunded \$8.9 billion dollar restoration plan.

The Water Authority believes it is now time for the State, with leadership through the Administration, to address the near-term and longer-term Salton Sea restoration issues head-on. The Commission's involvement in this discussion will undeniably help the State's separate restoration discussion and further highlight the need to renew its commitment to fulfilling its Salton Sea restoration obligations. The Water Authority asks the Commission to encourage the Governor to immediately convene a task force or other Administration-led stakeholder process to consider immediate, near-term and long-term actions and solutions to address air quality and habitat restoration efforts to improve conditions at the Salton Sea. It is important to the Water Authority's constituents that this is also be undertaken in a manner that is protective of the contractual arrangements contained in the QSA agreements that are critical to the 3.2 million people and the \$206 billion regional economy of San Diego

II. Requested Testimony

A. The Quantification Settlement Agreement

The history of the QSA Agreements is largely uncontested. The 35 QSA Agreements approved in October 2003 settled various disputes over Colorado River water supply. The QSA itself finally quantified the rights to Colorado River water of the IID, Coachella Valley Water District (CVWD), and Metropolitan Water District of Southern California (MWD), which aided California in reducing its Colorado River use from its historical maximum of over 5.2 million acre-feet per year (MAFY) to its basic annual apportionment of 4.4 MAFY in normal years. Different aspects of the QSA Agreements contributed to this reduction by implementing water conservation programs in IID's service area, transferring conserved water to CVWD, MWD, the Water Authority, and others, including the San Luis Rey Settlement Parties. This settlement included the commitment of \$385 million (nominal dollars) by CVWD, IID and the Water Authority to mitigate environmental impacts of the water transfers and \$67 million (nominal dollars) to be deposited into the Salton Sea Restoration Fund, to support the State's restoration obligation.

At full implementation, beginning in 2021, the Water Authority will receive 280,000 acre-feet per year (AFY) of water – and estimated 34 percent of its water supply – pursuant to the QSA Agreements. This includes 200,000 AFY of conserved water from the IID transfer for up to 75 years and 80,000 AFY of conserved water from the All American Canal and Coachella Canal lining projects² for 110 years.

² Although the transfers from the canal lining project are part of the overall QSA Agreements, they are subject of separate federal law and approvals. Environmental mitigation for the canal lining projects

B. IID-Water Authority Water Transfer Agreement

In response to unprecedented cut-backs to the Water Authority's water supply from MWD during California's major drought in the early 1990s, the Water Authority developed plans to reduce its nearly exclusive reliance on MWD by seeking alternative water supply sources to diversify its supplies and improve water supply reliability. The Water Authority was approached by IID, which was seeking additional ways to comply with the State Board's 1984 conservation order, and negotiations commenced.

The 1998 Agreement for Transfer of Conserved Water (IID-Water Authority Transfer Agreement or Transfer Agreement) met the Water Authority's and IID's complementary needs. As originally negotiated, the Transfer Agreement would transfer up to 300,000 AFY to the Water Authority of water developed from IID's conservation improvements that the Water Authority would fund. (Transfer Agreement, §§ 3.1, 3.2(a).) This agreement allowed IID to implement the long-term water conservation program that the State Water Board required while retaining IID's Colorado River priority.

In 2002, the State Water Board approved the transfer, authorizing both a 200,000 AFY water transfer from IID to the Water Authority and 100,000 AFY water acquisitions from IID to CVWD or MWD. (Revised WRO 2002-0013.) The State Water Board has continuing jurisdiction over the transfer and the mitigation that was ordered pursuant to its approval.

C. Mitigation of QSA Transfers Impacts

The transfer of water from IID to the Water Authority will reduce the volume of agricultural run-off from IID into the Salton Sea, which, in turn, may accelerate the natural trend of the Salton Sea to hyper-salinity. The primary strategy to mitigate the reduction in inflows resulting from QSA water transfers in the Imperial and Coachella valley was to deliver water to the Salton Sea for a 15 year period from 2003 to 2017. Implementation of this mitigation would: (1) avoid impacts to fish and birds by stabilizing salinity impacts for 15 years; (2) and avoid air quality impacts from dust emissions during this period because there would be no impacts to the elevation of the Salton Sea. While it is often alleged that the QSA transfers are presently causing impacts to the Salton Sea, as described in the 2013 Annual Report of IID Pursuant to State Water Resources Control Board Revised Order WRO 2002-013, the current Salton Sea elevation changes from January 1, 2003, through December 31, 2012, "are occurring for reasons independent of the water transfer Project, which has been fully mitigated with replacement water, as required." (Annual Report, pages 24 and 85; Appendix 4.)

is unrelated to and funded separately from the QSA water transfers. (QSA-Joint Powers Authority (JPA), § 1.1(b); SB 654 § 3(d), (d)(2); ECSA, § 1.2(11)(ii).)

This replacement water was also intended to allow the State to identify and select a Preferred Alternative for Salton Sea Restoration. Since 2003, however, the State has made only minimal progress toward the Salton Sea's restoration, and it appears unlikely a State-sponsored restoration plan will be implemented by 2017 as required by the QSA enabling legislation. The Water Authority believes that the failure of the State to make progress toward fulfilling its Salton Sea restoration obligations may minimize the effectiveness of existing QSA mitigation measures. As required, the parties to the QSA water transfers have fully mitigated the effects of those water transfers. Concurrently, as described above, the State was given ample time to fulfill its obligation as to restoration of the Salton Sea. Restoration was not a commitment of the QSA and not a condition of the QSA water transfers.

As such, the Water Authority has been an active participant in state and local efforts to support and help implement incremental small-scale restoration projects as funds become available. As part of this approach, there are a number of "pilot" or "demonstration" projects that have been constructed that are proving to be useful examples of how the receding shoreline can be managed on a pay-as-you-go basis. Attached as Attachment 1 is the Water Authority's Salton Sea Workgroup Proposal, which identifies the Water Authority's proposed manner in which the Governor's Office might undertake this task. When viewed in the larger context, these incremental projects, along with similar efforts being made by the QSA JPA, will serve to work together to improve the environment of the Salton Sea and surrounding area.

D. The State's Obligation to Restore the Salton Sea

Prior to the QSA, restoration of the Salton Sea had been contemplated by the United States and the State. (PL 102-575 § 1101, PL 105-372 § 101.) Numerous studies on how to restore the Sea had been conducted over the years, but no planned restoration was imminent when negotiations for the QSA agreements were nearing conclusion. The last restoration efforts before the QSA was finalized occurred in 2000 based on federal legislation (Salton Sea Reclamation Act of 1998 PL 105-372), and consisted of preparation of a separate draft EIR/EIS and report identifying numerous potential restoration alternatives for the Sea, none of which were acted upon.

The environmental review process for the QSA water transfers specifically identified impacts to the Salton Sea. This brought to the forefront tensions between transfers of water that reduce inflows to the Salton Sea and a goal of developing a Salton Sea restoration plan. In 2002, the Legislature addressed these matters by enacting Senate Bill 482 (Kuehl), 2002 Stat, ch. 617. which included a requirement that implementation of the QSA during its first fifteen years "(1) will not result in a material increase in projected salinity levels at the Salton Sea, and (2) . . . will not foreclose alternatives for reclamation of the Salton Sea as summarized in Section 101(b)(1)(A) of the Salton Sea Reclamation Act of 1998."

Following passage of this legislation, Assembly Speaker Emeritus Robert M. Hertzberg led a process in which staff and negotiators for CVWD, IID, MWD, and the Water Authority met with officials from the wildlife agencies to develop modifications to the transfers needed to meet SB 482's requirements and to negotiate corresponding revisions to the draft QSA agreements.

E. The 2003 QSA Legislation Ensured that Impacts of the Transfer Would be Fully Mitigated and Funded, and Salton Sea Restoration Funded Separately by the State

The Legislature recognized that the QSA Agreements were integral to resolving longstanding disputes regarding the River and preventing a federal mandate that would abruptly and drastically reduce California's use of Colorado River water. In September 2003, the Legislature passed three bills "necessary to implement the QSA" — Senate Bills 277, 317, and 654 (Stats. 2003, chs. 611, 612, and 613, respectively.)

The three bills resolved the dilemma between mitigation and restoration – often improperly conflated when discussing Salton Sea restoration. SB 654 and the other QSA statutes created two express limitations on the water-agency parties to the QSA-JPA. First, SB 654 limits the mitigation for which the QSA- JPA funds can be utilized. It defines "environmental mitigation requirements" as measures required by the EIR/EIS and Addendum for the Transfer Project and QSA. (SB 654 SEC. 3(d).)

Second, SB 654 calls on the water agency parties to contribute \$30 million to the Salton Sea Restoration Fund created in SB 277 and 317.³ However, other than IID, CVWD, and the Water Authority's \$30 million contribution, SB 654 plainly states that IID, CVWD, and the Water Authority will not be responsible for any Salton Sea restoration costs. (SB 654 SEC. 3(c).) The QSA-JPA contains this limitation in Sections 1.1(d) and 14.3.

Among other things, the QSA legislation established several mandatory obligations on the part of the State to develop a plan to address Salton Sea restoration. Specifically, the QSA legislation provides that the California Secretary of Resources shall coordinate with other agencies to prepare a restoration study. In summary, the restoration study was required to include all of the following: (a) an evaluation of and suggested criteria for the selection of alternatives; (b) an evaluation of the magnitude and practicability of the costs of construction, operation and maintenance for each; (c) a recommended plan for the use of transfer water; and (d) the selection of an alternative and a funding plan to implement the alternative. (SB 317, SEC. 1.)

With the passage of the QSA legislation and the State's assumption of specific duties and obligations, the QSA parties reasonably believed that California would develop a

³ SDCWA contributed \$12,485,889 as its share of the Salton Sea Restoration Fund in 2004.

feasible restoration plan, which would have had a material impact on the cost of mitigating environmental impacts from the QSA and would also have reduced or eliminated the likelihood that the State would be required to satisfy its obligation to cover environmental mitigation costs in excess of the funds contributed by IID, the Water Authority, and CVWD.

F. The State has Failed to Live Up to Its Obligations

In May 2007, the California Resources Agency submitted to the Legislature a final Programmatic Environmental Impact Report that selected a preferred Salton Sea restoration plan. The preferred alternative had a capital cost estimated at \$8.9 billion and annual operating costs of \$142 million per year. However, the submitted restoration plan was materially deficient because it failed to include a viable funding plan as required by Fish and Game Code Sec. 2081.7(e)(1)(B) and (D).

The submitted study identified funding sources that could be available for Salton Sea restoration, including funds from state, federal, and local sources, as well as user fees, and from a potential Salton Sea Infrastructure Financing District. However, no information was provided on practicable ways to actually fund the restoration as was required by the legislation. This missing information is critical to the selection of a preferred alternative and it remains completely absent today. As of the scheduled date of this hearing, there is no credible financing plan that has even been proposed, let alone been adopted, to support Salton Sea restoration.

In 2008, the California Legislative Analyst's Office (LAO) produced a follow-up report entitled "Restoring the Salton Sea." This comprehensive report provided yet still new recommendations for moving beyond the state's selection of a preferred alternative and beginning actual restoration. The recommendations proposed that the Legislature: set expenditure priorities for restoring the Salton Sea; formally adopt a restoration plan in statute; and adopt interim measures to meet priority mitigation requirements until the restoration plan and funding are in place.

The LAO noted the limited nature of the existing funding plan and recommended the inclusion of a comprehensive financing plan within the adopted restoration plan as required by the 2003 legislation. This would provide specific direction on allocating funding responsibilities among the potential funding sources, using realistic assessments of the ability to obtain the funds. The LAO recommended developing a schedule that matches forecast expenditures with funding sources. The report noted that the financing plan should respect existing limitations on the water agencies' funding contributions for restoration. However, the Secretary of Resources did nothing in furtherance of these recommendations.

The 2003 legislation mandated that the Secretary of Resources establish an advisory committee and shall consult with it through all stages of the alternative selection process. Moreover, there is a requirement that the Secretary of Resources use all available authority to execute a MOU with the Secretary of the Interior for the

purpose of obtaining federal participation in the restoration of the Salton Sea. (SB 482, SB 317, Section 2081.7(e)(1).) The Secretary of Resources has not executed a MOU with the Secretary of Interior and it is not believed that there has been any effort expended by the Secretary of Resources in pursuit of this objective.

To date, the Legislature has taken no action on either the preferred alternative or funding authorization for any large-scale restoration effort. In 2010, further legislation was enacted, establishing the Salton Sea Restoration Council (SB 51 (Ducheny 2010)) for the purpose of evaluating a Salton Sea Restoration Plan to be submitted to the Governor and Legislature by June 30, 2013.⁴ By all credible accounts the State has failed to discharge its obligations under the authorizing statutes. But this failure has no bearing whatsoever on whether the QSA is being properly implemented.

G. Only Incremental Salton Sea Restoration has been Accomplished

While the last two years have seen some preliminary progress toward restoration, much more is needed to address this complex and long-standing pre-QSA restoration issue. There are now a number of early habitat demonstration projects that are permitted but have only partial funding. The California State Auditor's Report 2013-101 from November 2013 indicates that \$32.1 million has been put into the Salton Sea Restoration Fund through fiscal year 2013. Another \$72 million may be available from Prop 50, Prop 84, and the Wildlife Conservation Board; however, these sums are insufficient to fund any comprehensive restoration plan.

Currently, there are only three Salton Sea restoration projects scheduled for completion in the near future: (1) California's Species Conservation Habitat to restore shallow water habitat (640 acres); (2) the joint U.S. Fish & Wildlife Service/IID Red Hill Bay project (650 acres) to provide saline shallow water shorebird habitat, and reduce emissive dust; and (3) the Torres-Martinez wetlands (105 acres). These projects constitute the extent of habitat or air quality management projects currently scheduled for construction around the Salton Sea by 2017. Each of these restoration projects has plans for subsequent expansion, but to date none has secured the funding necessary to expand beyond the listed acreage. To effectively address this complex and long-standing pre-QSA restoration issue, a multitude of stakeholders must be convened with leadership from the Governor's Office to expeditiously develop a path forward that permanently addresses the potential long-term health and environmental impacts to the communities surrounding the Salton Sea.

H. The Commission Should Recommend that the Governor's Office Lead Restoration Discussions

⁴ In 2012, Governor Brown disbanded the Salton Sea Restoration Council.

The Water Authority believes that the Commission should recommend that the Governor's Office establish a stakeholder task force, supported, as appropriate, by other State agencies, to lead the discussion of Salton Sea restoration. Attached as Attachment A is the Water Authority's Salton Sea Workgroup Proposal, which identifies the Water Authority's proposed manner in which the Governor's Office might undertake this task.

There is precedent for this approach. In fact, negotiations on the QSA itself were led by the direct involvement of Governor Gray Davis and his staff. The independent task force comprised of interested and responsible state representatives, the QSA parties, non-governmental organizations and members of the public would work to develop a feasible and financially sound Salton Sea Restoration plan. Consistent with the California Water Action Plan, the Natural Resources Agency and the Salton Sea Authority can present their roadmap for the Salton Sea restoration and economic development of renewable energy projects.

III. Conclusion

The Salton Sea should be restored. The State of California should assume its responsibility to designate a restoration alternative coupled with a financing plan. The best way to achieve this objective is by seeking a consensus-based resolution through a stakeholder task force managed by the Governor's Office. The task force must focus on and prioritize near- and long-term projects that achieve immediate air quality and habitat protections to permanently address potential health and environmental impacts to the communities surrounding the Salton Sea.



Salton Sea Workgroup Proposal

ATTACHMENT 1

The demise of the Salton Sea has been a long standing statewide issue for decades. A receding shoreline, the potential for impaired air quality, and increasing salinity levels are concerns that have been known and studied well before the historic Colorado River Quantification Settlement Agreement (QSA) and the first water conservation efforts in the Imperial and Coachella Valleys. Factors including reduced inflows from local tributaries, Colorado River hydrology, rainfall, and farming activity, all have an impact on the Salton Sea. Since the mid-1960s and as late as 2007, studies conducted by the State have attempted to address these issues in an effort to develop a plan that stabilizes habitat for fish and wildlife, and proactively addresses air quality in the area. Despite these efforts and regardless of the decade, no substantial action has ever been taken on alternatives identified in past restoration studies.

To effectively address this complex and long-standing pre-QSA restoration issue, a multitude of stakeholders must be convened with leadership from the Governor's Office to expeditiously develop a path forward that permanently addresses the potential long-term health and environmental impacts to the communities surrounding the Salton Sea. To elevate attention to the state's obligation to make progress on restoration, the Water Authority proposes the following:

1. Ask the Governor to issue an Executive Order or Proclamation convening a high-level, multi-agency workgroup consisting of the following:

- Governor's Office
- Department of Finance
- California Natural Resources Agency
- State Water Resources Control Board
- Department of Fish and Wildlife
- California Energy Commission
- Sonny Bono Salton Sea National Wildlife Refuge
- Department of Food/Agriculture
- Department of Water Resources
- QSA Parties
- Salton Sea Authority
- Imperial and Riverside counties
- Conservation groups/NGOs
- California Environmental Protection Agency

2. Task the Workgroup with providing expertise to support implementation of specific near-term projects and strategically develop longer-term projects.

- Near-term: Implementation-ready projects that support effective air quality mitigation and wildlife habitat creation with high functional value that would not preclude other Salton Sea mitigation and restoration opportunities.
- Longer-term: Broad restoration projects to improve conditions at the Salton Sea and development of a feasible and implementable financing plan.

3. Prioritize a list of near-term projects to achieve immediate air quality and habitat protection.

- Air Quality: Wind barriers (hay bales), tillage and moat-and-row, plant community enhancement, playa surface stabilization with surfactants, and water-efficient vegetation.
- Habitat Protection ("no regrets"): Species Conservation Habitat, Red Hill Bay Marina restoration, Torres Martinez geotube and wetland enhancement, and additional "anchor" restoration projects to be considered.



Salton Sea Workgroup Proposal

ATTACHMENT 1

4. Assess project effectiveness to guide long-term project planning.

- Air quality data analysis
- Expansion of demonstration projects into large-scale restoration projects
- Adaptive management

5. Assist in securing financial resources to accelerate implementation of near-term and longer-term projects. Potential sources of funding include:

- Proposition 1
- QSA mitigation funds
- Integrated Regional Water Management funding
- Existing Salton Sea Restoration Funds
- Federal Water Resource Development Act funding

Species Conservation Habitat Project

California Department of Fish and Wildlife
California Natural Resources Agency

Purpose

To develop a range of aquatic habitats along the exposed shoreline of the Salton Sea that will support fish and wildlife species.

Location and Size

The project size is located in the southern end of the Salton Sea. Depending on funding availability, the project would be up to 3,770 acres.



Description

The Species Conservation Habitat (SCH) Project is a State project that will restore shallow water habitat lost due to the Salton Sea's increasing salinity and reduced area as the Sea recedes. Cascading ponds will be attached to each of the pond units. The SCH ponds would be constructed on recently exposed playa following the existing topography (ground surface contours) where possible using a range of design specifications. The ground surface within the SCH ponds would be excavated with a balance between cut and fill to acquire material to build the berms and habitat islands. The newly created habitat would be contained within low-height berms. The water supply for the SCH ponds would be a combination of brackish river water and saline water from the Sea, blended to maintain an appropriate salinity range for target biological benefits.

The SCH Project is designed as a proof-of-concept project in which several Project features, characteristics, and operations could be tested under an adaptive management framework for approximately 10 years after completion of construction (until 2025). By then, managers would have had time to identify those management practices that best meet the Project goals.

Costs and Funding

The funding for the project comes from a variety of sources including Propositions 50 and 84. An estimated cost breakdown is shown in the following table:

Agency	Design & Permitting	Construction	Management	Total
Wildlife Conservation Board		\$2,100,000	\$1,215,000	\$3,315,000
Dept. of Water Resources		\$25,195,000		\$25,195,000
Imperial Irrigation District	\$379,000	\$40,200		\$419,200
CA Dept. of Fish and Wildlife			\$607,027	\$607,027
Total	\$379,000	\$27,485,000	\$1,663,227	\$29,527,227

Status

Construction is anticipated to begin in 2015 on the 640-acre site adjacent to the New River inflow to the sea as part of a larger state SCH project. Available funding will cover only this initial phase, with more habitat built as funds become available.

Red Hill Bay Restoration Project

Imperial Irrigation District
US Fish and Wildlife Service

Purpose

To restore a 650-acre area to provide important saline shallow water shorebird habitat, and reduce emissive dust.

Location and Size

The project is 650 acres located on the Southeast shore of the Salton Sea, which is part of the Sonny Bono Salton Sea National Wildlife Refuge.

Description

The restoration project involves construction of a series of short earthen berms across the exposed portions of Red Hill Bay along the Salton Sea. The project will utilize blended water from agricultural return flow water pumped from the adjacent Alamo River and salt water pumped from the Salton Sea. It will provide wading and shorebird habitat in an area that once supported these birds but is currently dry, as well as reduce emissive dust potential.

Costs and Funding

Total costs for the project are projected to be \$2,980,454. The project was awarded \$1,194,154 by the State of California's Salton Sea Financial Assistance Program in fiscal year 2012-2013. The project also has potential to receive a grant from the Wildlife Conservation Board.

Status

Construction on the project is anticipated to begin in 2015.

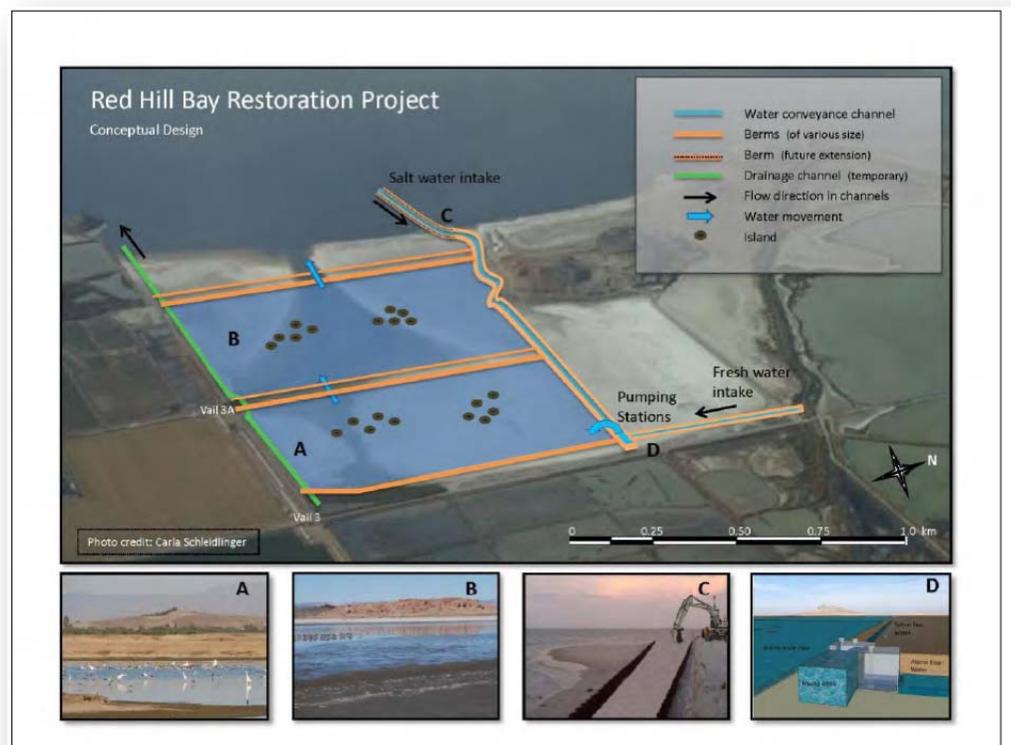


Figure 6: Sample Habitat Design – Red Hill Bay Restoration Project (Image from Intra-Service Section 7 Biological Opinion for Sonny Bono Salton Sea National Wildlife Refuge Red Hill Bay Restoration Project)

Geotube and Wetlands Enhancement Projects

Torres Martinez Desert Cahuilla Indian Tribe
Salton Sea Authority

Purpose

Restore and enhance existing ponds at the Torres Martinez wetlands, and create five acres of new habitat using new berm technology (Geotubes) and develop photovoltaic capability to power reliable and sustainable water delivery.

Size and Location

The Wetlands Enhancement Project is located at the north end of the Salton Sea, and provides 85 acres of wetlands. The Geotube Pilot Project is in the process of re-design and the project location has moved to a five acre area near the North Shore Beach and Yacht Club on the north east end of the Salton Sea.



Description

The Geotube and Wetland Enhancement Project restores nine existing ponds at the Torres Martinez wetlands, enhances two existing ponds, creates 20 acres of new habitat using new berm technology (Geotubes) and develops photovoltaic capability to power reliable and sustainable water delivery to all ponds. The project includes the development of a sustainable water delivery system, the development of additional aquatic habitat, and research on berm and impoundment construction techniques. The project also includes the development of a renewable energy facility to provide electrical power to the facility.

Costs and Funding

Total costs for the project are projected to be \$1,519,887. The project was awarded \$1,113,027 State of California's Salton Sea Financial Assistance Program in fiscal year 2012-2013.

Project Status

Construction is expected to start in 2015.

Restoration and Renewable Energy Initiative

Project

Imperial Irrigation District (IID)

Purpose

Utilize renewable energy resources, particularly geothermal, to generate revenue for restoration efforts at the Salton Sea.

Location and Size

The project is located on the Southeast portion of the Sea within the Salton Sea Known Geothermal Resource Area. Project size is undetermined.

Description

IID's Salton Sea Restoration and Renewable Energy Initiative utilizes the vast geothermal energy resource at the Sea to provide a funding mechanism for Salton Sea restoration. According to IID studies, the Salton Sea has some 2,400 megawatts of untapped geothermal resource with much of that resource currently under water. As mitigation water to the Sea ends in 2017 and playa exposure occurs at a faster rate, it is projected that a large percentage of exposed playa will occur in the southeast corner of the sea that has been determined to be an important geothermal area.

IID's initiative calls for attracting geothermal development to the exposed playa and utilizing revenue generated from those projects to fund a restoration program. One IID study states that over a 30-year-period as much as \$4 billion could be generated from geothermal development with a portion of that funding earmarked for restoration. The Salton Sea Authority and California Natural Resources are working collaboratively on a Restoration Feasibility and Financial Plan to be completed in 2016, which incorporates the IID Initiative. The National Renewable Energy Laboratory (NREL) is under contract to further determine the geothermal capacity at the Sea and to analyze the revenue figures.

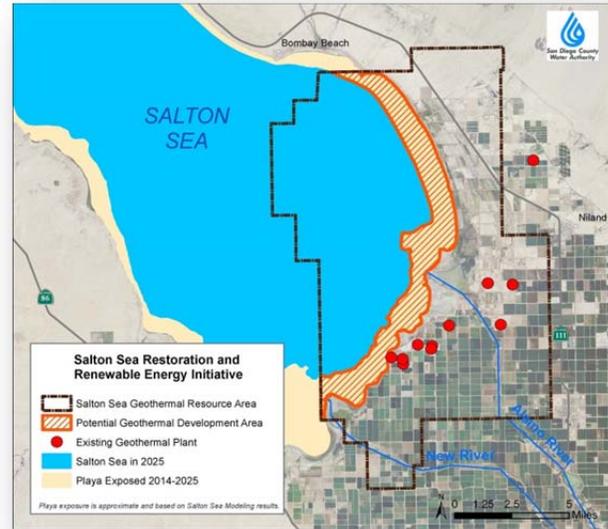
Costs and Funding

Yet to be determined.

Status

Geothermal development at the Sea will depend on the ability to move the energy resource beyond IID's service area to energy consumers throughout Southern California. IID is already upgrading its transmission system as part of its Path 42 project that will provide enough transmission capacity for several hundred megawatts of energy. Path 42 should be completed within a five-year period.

There are no new geothermal projects along the Sea, but with Gov. Brown's declaration for a 50-percent renewable portfolio standard (RPS) by 2030 that could attract new interest in geothermal projects at the Sea.



Marine Water Habitat

Pilot Project

Imperial Irrigation District

Purpose

To evaluate the potential for using geothermal or solar thermal energy to reclaim saline water for use in marine or fresh water habitats along the Salton Sea.

Size and Location

The project is located on the southeast shore of the Salton Sea. The project size is half an acre, with a 1/4-acre marine habitat pond and a 1/4-acre salinity gradient solar pond.



Description

This project is being jointly implemented by the Imperial Irrigation District and a private firm, Sephton Water Technologies, Inc. The project will develop a process for reclaiming hyper-saline water from the Salton Sea using a small scale salinity gradient solar pond and an existing seawater desalination plant to provide hyper-saline water to the gradient pond and fresh water to the adjacent constructed habitat. It will evaluate the potential for saline gradient ponds to provide adequate energy and treated water to create marine and freshwater habitat areas, where fish and invertebrates will be introduced. Additional information on evaporation rates and control treatments may also be evaluated, along with the potential for the salinity gradient ponds to be used to control dust emissions.

Costs and Funding

The Salton Sea Financial Assistance Program awarded \$692,819 for the project in fiscal year 2012-13.

Status

The pilot-scale facility is anticipated to be implemented in 2015 or 2016.

Air Quality Pilot Projects

Quantification Settlement Agreement
Joint Powers Authority (QSA JPA)

Purpose

To develop effective dust control strategies around the Salton Sea

Size and Location

Projects are located around the southwest portion of the Salton Sea, and vary in size from 10 to 50 acres.



Description

As part of its Air Quality Mitigation Program (Air Quality Program), the QSA JPA has identified and begun implementing air quality pilot projects to control particulate matter emissions that could result as playa is incrementally exposed over the next 40 years from the QSA water transfers. The Air Quality Program provides a science-based, adaptive management plan to characterize air quality and develop and implement effective dust control mitigation measures around the Salton Sea. In order to characterize ambient air quality, the QSA JPA has funded the installation and ongoing operation of an air quality monitoring network since 2009 to measure meteorological conditions and ambient air quality including particulate matter at six locations around the Sea. This monitoring provides information to identify source areas that require dust control and inform how dust control measures should be selected and designed.

Air quality pilot projects to control dust emissions identified in the Air Quality Program for implementation include playa surface stabilization with surfactants, wind barriers such as hay bales, tillage, and plant community enhancement. The initial selection for pilot projects is based on previous application (for example, at Owens Lake) and existing literature on large-scale playa dust control. Pilot projects are monitored for three to five years to evaluate overall performance, dust control efficiency, and other parameters including habitat quality. While the focus of the Air Quality Program is on mitigation of the QSA water transfers, the results of air quality pilot projects are also directly applicable to long-term Salton Sea restoration.

Costs and Funding

The QSA JPA has currently expended over \$3.5 million towards its Air Quality Program and is expecting this will increase significantly after 2017, when mitigation water to the Salton Sea ends.

Status

Pilot projects currently being implemented and evaluated include vegetation and surface stabilization with surfactants. Pilot projects scheduled for under evaluation for implementation beginning in 2015 include tillage, hay bale, and a soil amendment project. Results from the pilot projects should be applicable to Salton Sea restoration.