

**Testimony of Brad Poiriez
Air Pollution Control Officer
Imperial County Air Pollution Control District**

**Little Hoover Commission
Public Hearing on the Salton Sea
April 28, 2015**

On behalf of the Imperial County Air Pollution Control District, I would like to thank the Little Hoover Commission for undertaking the Salton Sea study to better understand the crisis at the Salton Sea and the State's obligations with respect to environmental mitigation and restoration of the Sea, and for the opportunity to submit testimony on air quality and public health issues for the Commission's consideration. There is certainly an urgent need to secure the State's commitment to fund and implement Salton Sea restoration, which is the preferred means of mitigating the impacts of the Quantification Settlement Agreement ("QSA") water transfers in order to protect public health.

My testimony will address the following key issues presented by the Commission:

- The effect of the receding Salton Sea on Imperial County's air quality and how that affects the region's residents.
- Research that tracks Imperial County's air quality over time and the conclusions that can be drawn from the research.
- Results of the Air District's analyses of the contaminants in the seabed.
- The importance of Imperial Valley air quality as a statewide issue in California.
- Considerations to protect air quality that should be included when developing Salton Sea solutions.

Before addressing these important issues, it is important for the Commission to understand the Air District's statutory obligations to attain and maintain air quality standards. It is also important to provide a brief background so that the Commission has context and understands the QSA's water transfers' impact on the Salton Sea and public health. In addition, the Salton Sea continues to recede at a rapid rate, which will only be exacerbated in 2017 when mitigation water to the Sea ends, resulting in a dramatic increase in the Air District's work load and the expenditure of funds that have not been reimbursed to date.

Finally, it is important for the Commission to know that there is no time for more endless studies and debates about whether the Salton Sea should be restored. The mitigation water currently being sent to the Salton Sea will end in 20 months from now, and thereafter the Sea's decline will be very rapid. There are no shortages of restoration plans. The State, United States Bureau of Reclamation, and Salton Sea Authority ("SSA") have developed over nine different plans. The Air District suggests that the County, Air District, Imperial Irrigation District ("IID"), and SSA identify projects that can be implemented in the near-future and funded by the State. A longer term holistic restoration plan can be developed while these near-future projects are implemented in order to protect public health.

1. The Air District is Charged By the State Legislature with Protecting Public Health.

The Air District is the sole statutory authority responsible for compliance with the federal Clean Air Act and State air quality requirements in Imperial County. One of the most important statutory requirements is for the Air District develop plans (called State Implementation Plans or “SIPs”) and rules demonstrating to EPA and California Air Resources Board (“CARB”) that areas within its jurisdiction will attain and maintain federal and state ambient air quality standards. The County extends over 4,597 square miles within the southeastern portion of California, bordering Mexico to the south, Riverside County to the north, San Diego County to the west and Arizona to the east. The Salton Sea, California’s largest lake, is located in Imperial and Riverside Counties and comprises the western arm of the lower Colorado River delta system.

2. Short Background of the QSA and Air Quality Impacts at the Salton Sea.

A. The “Pre-QSA” Colorado River Water Allocations Were Governed by the Seven Party Agreement.

California is limited to 4.4 million acre-feet per year (“maf”) of Colorado River water, plus one-half of any surplus water. Assuming California would always receive surplus waters, the water contractors (Imperial Irrigation District (“IID”), Metropolitan Water District of Southern California (“MWD”) and Coachella Valley Water District (“CVWD”)) agreed in the “Seven Party Agreement” to apportion 5.362 maf of Colorado River water as shown in **Attachment 1**.

The Seven Party Agreement dictated how the Secretary of Interior (“Secretary”) delivered Colorado River water before the Quantification Settlement Agreement, or “pre-QSA.” IID holds the lion’s share of California’s water rights and does not rely upon surplus Colorado River water. CVWD’s junior priority position in 3(a) means that any shortages in fulfilling the first three priorities are borne by CVWD. MWD was allotted 550,000 acre-feet per year (“af”) under a fourth priority right, and 662,000 af under a fifth priority right **not** within California’s 4.4 maf allocation. As an MWD-member agency, San Diego County Water Authority (“SDCWA”) must compete with other MWD members to obtain sufficient water supplies.

MWD historically received full allotments because surplus water conditions existed on the Colorado River, and Arizona and Nevada were not using their full apportionments. When the Central Arizona water project was approved and Nevada needed water to grow, the Secretary demanded California live within its 4.4 maf apportionment. Once California is limited to 4.4 maf, MWD’s Colorado River Aqueduct (built expecting permanent surplus waters) would operate half empty.

Colorado River surplus conditions were declared for 15 years (2001-2016). But, for MWD to be eligible for surplus waters, then-Secretary Norton required the QSA to be executed by December 31, 2002. The QSA was intended to fundamentally change the Seven Party Agreement.

B. Rising Salton Sea Water Levels Led to the QSA.

The genesis of the QSA water transfers were the State Water Board’s 1984 Decision-1600 and Water Rights Orders 84-12 and 88-20, which sustained complaints from a landowner impacted by **rising** Salton Sea water levels allegedly caused by IID’s irrigation practices.

Landowners adjacent to the Salton Sea eventually sued IID and CVWD over the flooding. The State Water Board concluded that IID should conserve water to avoid flooding at the Sea. In response, IID agreed in 1988 to conserve and transfer 100,000 afy of water to MWD. The State Water Board determined the IID-MWD agreement fulfilled IID's obligations under Order 88-20.

C. IID and SDCWA Negotiated a Second Water Transfer.

Because its water usage was still under attack, IID negotiated another water transfer to SDCWA. The negotiations culminated in April 1998, with an agreement for IID to transfer up to 300,000 afy of Colorado River water directly to SDCWA. In July 1998, IID and SDCWA submitted a joint petition to the State Water Board for approval of the IID-SDCWA water transfer agreement. CVWD and MWD protested, arguing that under the federal Law of the River and priority system Colorado River water should flow to them as junior appropriators and not to SDCWA. To settle the disputes, the four water agencies negotiated key terms for the QSA and entered into a Protest Dismissal Agreement that reduced the transfer to SDCWA to 200,000 afy, re-directed 100,000 afy to CVWD and/or MWD, and capped IID's water allocation at 3.1 mafy.

D. Salton Sea Impacts Was a Critical and Controversial Issue that Jeopardized the QSA's Execution by the Secretary's December 2002 Deadline.

Impacts to the Salton Sea emerged as a key issue during the State Water Board hearings on the joint IID-SDCWA petition between April and July 2002. A significant portion of the Colorado River run-off from the agriculture fields drains to the Salton Sea. The reduction in IID's water use will cause the Sea's level to decline and exposed playa that is susceptible to wind erosion causing increase in particulate air pollution. Of particular concern to the Air District to be addressed were the quantification of the air quality impacts, analysis of the human health impacts of increased air pollution and air toxics, and adoption of sufficient mitigation measures.

E. The State Water Board Prematurely Issued WRO 2002-0013 Granting a 75-Year Approval of the QSA.

On June 28, 2002, IID certified the EIR/EIS for the water transfers under the California Environmental Quality Act ("CEQA"). IID was unable to approve a project with the EIR/EIS because there was no agreed-to QSA. After the EIR/EIS was certified, Salton Sea impacts continued to be the subject of negotiations led by former Assembly Speaker Robert Hertzberg. In October 2002, a new QSA was announced. Mitigation water would be sent to the Salton Sea for 15 years (until 2017) to slow its decline. IID and SDCWA capped their environmental mitigation expenses. The changes from the Hertzberg negotiations were the subject of IID's first addendum to the final EIR/EIS approved in December 2002, which was not submitted to State Water Board.

After the new QSA deal was announced, the State Water Board issued WRO 2002-0013 on October 28, 2002, conditionally approving the IID-SDCWA petition. The State Water Board was the first agency to approve the water transfers in reliance on the final EIR/EIS and establish the mitigation requirements. WRO 2002-0013 allowed IID to transfer up to 200,000 afy of Colorado River water to SDCWA and up to 100,000 afy to CVWD and/or MWD, contingent upon the lead agency, IID, executing the QSA and approving the transfers. The term of the transfers was 45-years with an optional 30-year renewal period, for a total of 75-years.

The Air District and others filed petitions for reconsideration of WRO 2002-0013. Parties to the State Water Board proceeding also requested the proceedings be suspended until IID could consider a final QSA project so that the State Water Board would know what they had approved. The State Water Board refused. On December 20, 2002, the State Water Board issued WRO 2002-0016, denying the requests for reconsideration and suspension of the proceedings, and issued Final WRO 2002-0013. WRO 2002-0013 was the subject of the State Water Board's recent public workshop on March 18, 2015 on Salton Sea issues.

F. The Water Agencies Did Not Agree on a QSA Before the Secretary's December 31, 2002 Deadline Expired.

In December 2002, there were still significant unresolved issues associated with the QSA. Under the Hertzberg-version of the QSA, the cost of Salton Sea restoration and environmental mitigation costs exceeded the amount the four water agencies were willing to pay. Because the QSA deal was falling apart, the Secretary issued an ultimatum to IID: if the QSA was not executed by December 31, 2002, surplus water deliveries MWD relied upon would be suspended reducing California's water by 620,000 afy. If the QSA was executed by the deadline, then surplus waters would be available to MWD.

Different versions of the QSA were approved by IID, MWD, SDCWA and CVWD. When the Secretary's December 31, 2002, deadline to execute the QSA passed without any agreement, the Secretary reduced IID's 2003 water delivery order under 43 C.F.R. Part 417. IID sued. The federal court eventually enjoined the Department of Interior from reducing IID's 2003 water delivery order. The federal government responded in April 2003 by instead reducing MWD's and CVWD's water delivery orders.

G. The State Water Board and Legislative Representatives Negotiated the Approved QSA.

After the December 31, 2002, deadline passed without a signed QSA, Richard Katz, Senior Advisor to the Governor and State Water Board member, and Senator Machado, led new negotiations to create a modified QSA that supposedly addressed Salton Sea issues and mitigation funding. The public, County of Imperial, and Air District were not included in the negotiations.

Under the Katz-negotiated version of the QSA, **the State of California agreed to fund restoration of the Salton Sea and pay all mitigation costs exceeding IID/CVWD/SDCWA's contributions.** Even though MWD benefits from the QSA by receiving surplus waters, MWD was not required to fund the mitigation. The State Legislature confirmed its commitment to fund restoration and mitigation costs when it enacted the Salton Sea Restoration Act ("Restoration Act"), Fish and Game Code Section 2930 et seq. The legislation made the State responsible for restoration. Restoration was not an option, but required by the legislation and relied upon by the State Water Board when it approved WRO 2002-0013. In order to provide the State sufficient time to develop and fund a restoration plan, IID agreed to send mitigation water to the Salton Sea until the end of 2017. Unfortunately, the State has not taken the proper steps to meet its obligation by 2017. As a result, public health will be compromised. If the State does not act, the cost is estimated to be \$70 billion through 2047. (*See Hazard's Toll: The Cost of Inaction at the Salton Sea* ("Hazard Report II").)

The State commitment to pay the costs of mitigation above \$133 million (in 2003 dollars) with no cap on total expenditures was the subject of one of the QSA contracts, the QSA-Joint Powers Agreement (“QSA-JPA”), attached as **Exhibit 1**.

The State’s obligation is set forth in Section 9.2 of QSA-JPA:

The State is solely responsible for the payment of the costs of and liability for Environmental Mitigation Requirements in excess of the Environmental Mitigation Cost Limitation. The amount of such costs and liabilities shall be determined by the affirmative vote of three Commissioners, including the Commissioner representing the State, which determination shall be reasonably made. The State obligation is an unconditional contractual obligation of the State of California, and such obligation is not conditioned upon an appropriation by the Legislature, nor shall the event of non-appropriation be a defense.

The California State Auditor recommends that the State fulfill its Restoration promise in part to reduce is environmental mitigation liability. (**Exhibit 2** [Auditor’s Report 2013-101, pp. 2, 17, 18, 35].)

Relying on the State’s commitments to restore the Salton Sea and pay for mitigation, the parties executed the QSA and its related agreements. On October 2, 2003, IID re-approved and re-certified the final EIR/EIS and QSA, as modified and supplemented by a second addendum.

H. The QSA Fundamentally Changed the Seven Party Agreement.

Under the QSA, IID’s Priority 3(a) water under the QSA was no longer the undefined portion in the Seven Party Agreement, but instead distributed by the Secretary according to the QSA as shown in **Attachment 2**.¹ Under the QSA, water previously diverted at the Imperial Dam and transported by the All-American Canal to Imperial Valley would now be diverted upriver at Lake Havasu/Parker Dam and transported by MWD’s aqueduct for SDCWA’s service areas. Less Colorado River water is delivered to IID under the QSA, significantly reducing inflow to the Salton Sea.

I. The State Water Board Modified WRO 2002-0013.

In October 2003, IID requested that the State Water Board revise paragraphs 5 and 6 of WRO 2002-0013, which required implementation of the Salton Sea Habitat Conservation Strategy (“SSHCS”), by accepting a replacement mitigation plan (a new 15-year water schedule) for reduced inflows to the Salton Sea. The State Water Board staff approved IID’s alternate mitigation strategy in January 2004 without conducting an analysis to ensure the new mitigation reduced the impacts to the same extent as the original condition. Under the SSHCS, mitigation water would have been sent to the Salton Sea to maintain the Sea’s salinity at 60 ppt until 2030, and the Sea’s elevation would be maintained and not decline until 2035. The 15-year water

¹ Citations in Attachment 2 are to Exhibit B to the Colorado River Water Delivery Agreement (“CRWDA”), attached as **Exhibit 3**, which identifies the Secretary’s water distribution for each of the 75 years.

delivery schedule provided for 800,000 acre feet of mitigation water to be delivered to the Salton Sea. This did not fully offset IID's water diversions under the QSA of 5,339,000 during this same period. This, along with the final QSA that reduced IID's water allocation by 450,000 afy to 575,000 afy instead of just the 300,000 originally contemplated, likely explains why the Salton Sea has declined much faster than the State Water Board originally projected.

J. Lawsuits Challenging the QSA and EIR/EIS Have Been Settled.

The QSA contracts and related CEQA documents were challenged. IID, the County and Air District recently settled the case so that the parties could focus on having the State abide by its promises to restore the Sea and fund mitigation. IID requested the State Water Board, which issued the necessary permit to allow the water transfers and is ultimately responsible for ensuring adequate mitigation, modify WRO 2002-0013 to conform it to the final QSA, in particular the State's funding obligations for restoration and mitigation. The Air District and County support IID's request. The State Water Board held a public workshop on March 18, 2015, but has not yet taken any formal action on IID's request.

3. The Effect of the Receding Salton Sea On Imperial County's Air Quality and the Impact on the Region's Residents.

The QSA diverts water that would ordinarily flow to the Salton Sea, thereby shrinking the Sea and exposing potentially 86 square miles of playa, slightly smaller than *the size of the entire City of Sacramento*, resulting in toxic-laden dust storms. The fine particulates in the dust (known as "PM10" – particulate matter less than 10 microns in diameter, and PM2.5 – microns less than 2.5 diameter in size) are a public health concern because these pollutants affect the breathing and respiratory systems, contributing to incidents of asthma in a County with already the worst childhood asthma hospitalization rate in California, and causing lung tissue damage, cancer, and premature death. Particulates also reduce crop yields causing economic losses to the County's \$2 billion dollar agricultural industry.

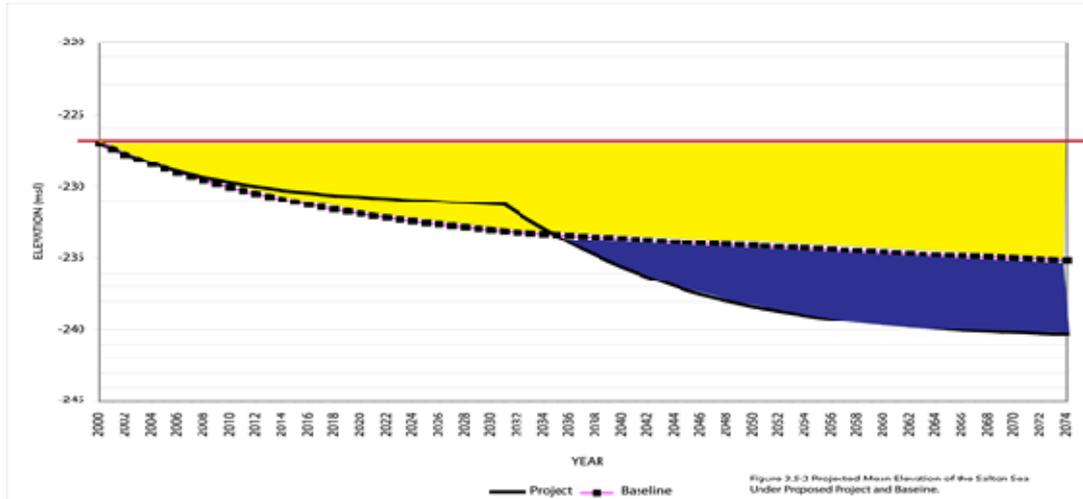
New credible evidence shows:

- The Salton Sea's elevation is declining rapidly. The area of exposed playa will be 340% more than assumed in 2002.
- The excess PM10 emissions will overwhelm Imperial County causing the air to be more highly contaminated and increasing the number of days the public will breathe unhealthful air.
- There are toxic chemicals in the Salton Sea sediment that can become airborne creating toxic-laden dust storms harmful to human health and agricultural crops.

It is undeniable that the water transfers will create an unabated public health hazard in Imperial and Riverside Counties, impacting both residents and visitors.

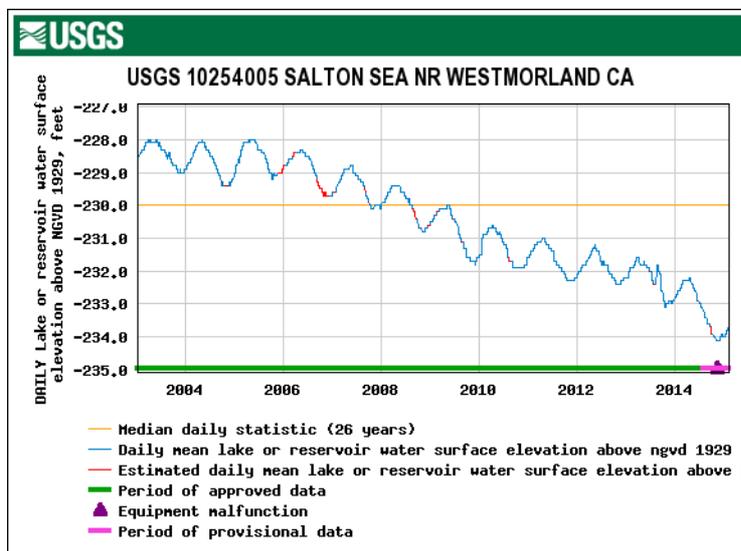
A. The Sea’s Elevation is Rapidly Declining.

WRO 2002-0013 projected the mean water surface elevation of the Salton Sea with the water transfers. In 2015, the elevation of the Salton Sea with the water transfers was projected to be around -230 mean sea level (“msl”). Under the State Water Board’s assumptions, the shoreline would not start receding until 2035. (IID Transfer Project EIR/EIS, at 3-39, 3-50.)



(WRO 2002-0013 p. 43, Figure 3.3-7 [colors and red line added].)

The assumptions the State Water Board relied upon are undeniably in error. In actuality, according to the United States Geological Survey’s (“USGS”) data, the Salton Sea has been receding and its elevation is currently about -234 msl:



These conditions will only get vastly worse. Once the obligation to send mitigation water to the Salton Sea ends in 2017, the rate of the Sea’s elevation decline is expected to double.

B. New Data Shows that 55,000 Acres of Playa will be Exposed Between 2011 and 2047.

In 2002, the State Water Board projected that by 2077, the transfers would expose 16,000 acres of playa at the Salton Sea. (IID Transfer Project EIR/EIS, at 3-53.) The State Water Board's projections significantly underestimated the amount of playa that will be exposed by the QSA water transfers. Recent modeling analysis shows that from 2011 to 2047 approximately 55,000 acres of playa will be exposed as a result of the QSA water transfers. This is almost three times the amount of playa exposed at Owens Lake. The significant increase in the amount of exposed playa will undeniably cause more air pollution than was originally projected.

4. Air Quality Research and Emissions Estimates and Conclusions to be Drawn.

A. The QSA's Contribution to Air Pollution Must be Quantified and Re-Elevated to Protect Public Health.

EPA established the national ambient air quality standards ("NAAQS") and the California Air Resources Board ("CARB") established California Ambient Air Quality Standards ("CAAQS") for PM10 and PM2.5, a pollutant in fugitive dust. The ambient air quality standards are established at levels necessary to protect public health. EPA established a 24-hour NAAQS for PM10 because PM10 poses a health concern as it can be inhaled into and accumulate in the respiratory system. The 24-hour NAAQS for PM10 is 150 $\mu\text{g}/\text{m}^3$.

Since 2002 when the QSA was executed, EPA has twice changed the NAAQS for particular matter, once in 2006 and in 2012. The 24-hour PM2.5 NAAQS was changed from 65 $\mu\text{g}/\text{m}^3$ when WRO 2002-0013 was approved to 35 $\mu\text{g}/\text{m}^3$, and the annual PM2.5 NAAQS was changed from 15.0 $\mu\text{g}/\text{m}^3$ to 12.0 $\mu\text{g}/\text{m}^3$.

The State has established a stricter 24-hour ambient air quality standard for PM10 of 50 $\mu\text{g}/\text{m}^3$ and an annual average standard of 20 $\mu\text{g}/\text{m}^3$. The State established an annual average standard for PM2.5 of 12 $\mu\text{g}/\text{m}^3$. CARB and the Office of Environmental Health Hazard Assessment conducted an evaluation of the health-based standards as required by The Children's Environmental Health Protection Act (Senate Bill 25, Escutia, 1999). These agencies concluded that significant harmful health effects may occur among both children and adults when outdoor PM10 concentrations are at or near the State standards.

It is possible to estimate the emissions potential of the playa at the receding Salton Sea. The Air District has estimated the emissions utilizing the information from IID's Salton Sea hydrology model, a report prepared by ENVIRON International Corporation in October 2005, "Technical Memorandum Regulation VIII BACM Analysis", and the methodology utilized in the 2009 SIP approved by EPA.² Based on this information, the Air District estimates that the QSA-caused exposed playa at the Salton Sea has the potential to create **70.6 tons a day and 25,769 tons a year of PM10.**³

² The emissions estimates and projected pollutant concentrations will continue to be refined by the Air District as part of its development of the new SIP.

³ The methodology is: $(1.3 \times 10^{-3}) \times (55 \times 10^{-3}) - 0.9 = 70.6$ tons per day of PM10 emissions.

The 2005 emission inventory that formed the basis for the Air District’s strategy to attain healthful air in the 2009 SIP did not include the additional PM2.5 and PM10 emissions caused by the QSA. The Air District will need to include these emissions in its next SIP and adopt rules in order to demonstrate to EPA that Imperial County will be able to reach attainment of the PM2.5 and PM10 NAAQS by the deadlines.

The Air District is required by the Clean Air Act to develop an inventory of emissions to determine the reductions necessary to reach attainment of the NAAQS. (See **Attachment 3** [the Air District’s last EPA-approved inventory].) The estimated emissions from the QSA could add another 70 tons or more a day of PM10 emissions to the emission inventory, increasing by three and half times the emissions collectively of all open areas in the County. The QSA’s emissions must be controlled and mitigation in order for the County to comply with the Clean Air Act. The Salton Sea will become the single largest PM10 source in Imperial County, likely surpassing Owens Lake as the largest PM10 source in the nation.

In order to determine how much each of the emissions sources in the inventory will need to be reduced in order to reach attainment considering the impact of the QSA, the Air District will be required to update the inventory and conduct dispersion and other modeling, as well as set forth new rules that will need to be adopted and implemented by the Air District.

B. The QSA Water Transfers Contribute to an Increase in the Number of Days the Air Exceeds the Standards of Safety and Will Affect Imperial County’s Ability to Attain Healthful Air Quality.

The geography of Imperial Valley poses challenges to attaining healthful air quality. Imperial Valley is below sea level, including all of its major population centers and the Salton Sea. Due to this fact, dust and other airborne pollutants have a tendency to hover in the air and do not move out of the valley.

Evidence now shows that the QSA water transfers are linked to new and more severe air quality impacts.

The Salton Sea ambient air monitoring network installed and operated by IID to assess the QSA’s impacts to air quality at the Salton Sea confirms the exposed playa is a significant new source of PM10 emissions contributing to exceedances of the NAAQS and CAAQS (see Table 1, below), and affects the attainment status for the entire County.

Table 1: PM10 Exceedances at the Salton Sea

Year	NAAQS Exceedances (150 µg/m³)	CAAQS Exceedances* (50 µg/m³)	Total
2010	0	34	34
2011	3	39	42
2012	4	65	69
2013	7	72	79

Year	NAAQS Exceedances (150 µg/m ³)	CAAQS Exceedances* (50 µg/m ³)	Total
2014	7	80	87
2015**	0	1	1
Total	21	291	312

*State exceedance figures do not include federal exceedances

**Year-to-date as of February 13, 2015

Date Source: CARB Air Quality and Meteorological Information System

Imperial County could face remedial and proprietary consequences if the QSA-caused emissions are not addressed. More than one exceedance of the NAAQS can cause an area to be declared in nonattainment. An EPA finding that the Air District’s SIP does not meet Clean Air Act requirements because the SIP is overwhelmed by PM10 emissions from the QSA will undoubtedly trigger the 18-month clock for mandatory application of sanctions that will significantly increase the amount (and cost) of pollution credits that new and expanding businesses and public works projects must purchase (i.e., offset requirements), and impose a freeze on federal highway funds.

The impacts will not be limited to Imperial and Riverside Counties. For example, on September 10, 2012, the South Coast Air Quality Management District (“SCAQMD”), which has jurisdiction over the northern part of the Salton Sea, received about 235 complaints of a “rotten-egg” odor spreading from near the Salton Sea to the San Fernando Valley, over 150 miles. The Air District expects that continuation of the QSA without adequate mitigation coupled with strong winds will again assist the seabed in turning and carrying the odors far distances. These same strong winds that cause this odor effect can also cause high PM10 levels that may contain toxic pollutants to travel long distances, even into the highly populated areas of Los Angeles County.

5. Seabed Contaminants and the Impacts of Airborne Toxics on Public Health and the County’s Agriculture Industry have Not Been Assessed.

There is no debate that toxic chemicals exist in the upper foot of the Salton Sea sediment. (**Exhibits 4-5** [toxics studies].) Levels of arsenic, cadmium, copper, lead, molybdenum, nickel, selenium and zinc have been found in the Salton Sea sediment. When the playa is exposed these toxics can become airborne creating toxic-laden dust storms harmful to the public and agricultural crops. There are populated areas and farmland less than five miles from the Sea’s shoreline.

According to EPA, people exposed to toxic air pollutants at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory and other health problems. In addition to exposure from breathing air toxics, some toxic air pollutants such as mercury can deposit onto soils or surface waters, where they are taken up by plants and ingested by animals and are eventually magnified up through the food chain. Like humans, animals may experience health problems if exposed to sufficient quantities of air toxics over time.

6. Increased Air Pollution Is a Public Health and Economic Concern.

Air pollution is creating a situation which is detrimental to the health, safety, welfare, and sense of well-being of the people of California. According to CARB:

PM10 is among the most harmful of all air pollutants. When inhaled these particles evade the respiratory system's natural defenses and lodge deep in the lungs.

Health problems begin as the body reacts to these foreign particles. PM10 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections.

Although particulate matter can cause health problems for everyone, certain people are especially vulnerable to PM10's adverse health effects. These "sensitive populations" include children, the elderly, exercising adults, and those suffering from asthma or bronchitis.

Of greatest concern are recent studies that link PM10 exposure to the premature death of people who already have heart and lung disease, especially the elderly.

Exposure to elevated concentrations of PM10 is associated with increased hospital and doctor visits for bronchitis, asthma, cardiac and respiratory tract disease. Children and the elderly are more vulnerable to the adverse effects of air pollution than are healthy adults. PM10 exposure is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease. Imperial County leads the State in childhood asthma hospitalizations of children aged 0-14 by more than twice the state average according to the California Department of Health Services in 2000. In addition, health care costs and lost work days associated with elevated PM10 levels cause negative fiscal impacts to Imperial County's health care system and business productivity. Agriculture is the single most important economic activity in the County. The acidic portion of particulate matter (nitrates, sulfates) harm crops by reducing crop yields. This will cause economic losses to the County, its agricultural industry, and other industries and businesses that rely on the agricultural industry.

As of 2014, the cost of inaction at the Sea is projected to be \$70 billion through 2047, before the QSA renewal term is set to begin according to the Pacific Institute's report Hazard Report II. Hazard Report II follows the Pacific Institute's initial report in 2006, *Hazard: The Future of the Salton Sea With No Restoration Project* ("Hazard Report I") that addressed the consequences of not implementing a restoration project. Hazard Report I predicted that salinity levels at the Salton Sea would triple by 2017 and that, after 2017, the rate of the Salton Sea's decline would accelerate dramatically, shrinking the Sea's volume by more than 60% between 2018 and 2030. (Hazards Report I, pp. 9, 13.)

Hazard Report II confirms the dire predictions of its earlier study. The report measured the costs associated with no Salton Sea restoration by assigning values⁴ to the following categories:

⁴ For comparative purposes, the Pacific Institute adjusts all Salton Sea Restoration costs to 2013 values, including those contained in the Preferred Alternative Report and QSA-JPA.

Category	Present Day Value (by 2047)
Public Health	\$21-37 Billion
Property	\$7 Billion
Agricultural Productivity	Insufficient information
Recreational Revenues	\$110 - \$150 Million
Ecological Values	\$10-\$26 Billion

These costs are significantly higher than implementing a restoration plan.

7. The Importance of Imperial Valley Air Quality as a Statewide Issue.

The air pollution from the Salton Sea will increase medical needs and costs, and make travel in the area difficult from the dust storms that will become more frequent. The State can expect that its health care per capita expenditures in Imperial Valley will increase, as will the need for additional facilities. The number of employee sick days will increase, reducing the State's revenue. Loss of agriculture productivity will affect the amount of produce available to the rest of California and the nation, as well as reducing the State's revenue. Agriculture and related-jobs will be lost increasing unemployment in the County with already the highest unemployment rate in California. This will cost California.

The Salton Sea is one of seven major Western wetlands along the flyway, no less important than the San Francisco Bay, Mono Lake, the Central Valley or Oregon's Klamath Basin. Hundreds of thousands of shore birds also rely on the Sea. The Salton Sea has been designated a wetland of international importance for shore birds by the Pacific Flyway Project at the Point Reyes Bird Observatory, which monitors bird migrations. The Salton Sea is nearly as valuable to shore birds as Chesapeake Bay, the Great Salt Lake and the Copper River Delta in Alaska. According to the California Fish and Wildlife Department, with the loss of valuable aquatic habitat to development and climate change, and places like the Salton Sea become invaluable resources for birds. If the Salton Sea were to disappear, California would be at risk of losing vast numbers of migratory and shore birds.

California residents and visitors would no longer be able to enjoy bird watching, hunting and camping at the Salton Sea. The State's Salton Sea Recreation Area will suffer as well as the State's revenue from these recreational activities. Bird populations that California residents enjoy will be lost. For example, it is estimated that only 100,000 white pelicans breeding pairs remain in North America and nearly half of them winter at the sea. Five endangered animal species live in the Salton Sea area: bald eagles, peregrine falcons, brown pelicans, desert pupfish and the Yuma clapper rail. One third of all the remaining clapper rails are found at the sea. The Salton Sea is a California and National treasure that cannot be replaced.

If the Salton Sea is not restored, the QSA could fall apart. This would cut off MWD's surplus water supplies during one of the State's most severe droughts, increasing the demand on Sacramento Delta water.

8. Considerations to Protect Air Quality that Should Be Included When Developing Salton Sea Solutions.

Any Salton Sea solution must reduce particulate pollution to protect public health and keep the QSA from unraveling. The Air District would be available to review specific solutions and provide technical advice as to whether these solutions will reduce particulate pollution.

The Air District also recommends that the Commission consider including the following as action items in its report:

- Identify projects that can be implemented in the near-future, and which will reduce air quality impacts by local authorities with appropriate State agency assistance.
- Appropriation of funds by the Legislature to pay for these projects, mobile health care clinics and other health monitoring and care programs to address the public's exposure to increased level of airborne toxics and particulate air pollution, and the County's and Air District's (the governmental agencies on the front line) additional costs incurred as a result of the QSA.
- Development of a long-term restoration strategy that will address air quality mitigation by local authorities with appropriate State agency assistance, and one that can be funded by the State.
- Enactment of legislation that will create an on-going funding mechanism for development of the restoration plan, implementation of the restoration plan, payment of increased County (including the County's increased health care costs) and Air District's costs and health related services to the affected public.

ATTACHMENT 1

Seven Party Agreement

Priority	Description	Amount of Water (acre-feet/year)
1	Palo Verde Irrigation District (“PVID”): 104,500 acres	3,850,000
2	Yuma Project: 25,000 acres	
3(a)	IID and lands in Imperial and Coachella Valleys to be served by the All-American Canal: IID (Senior); CVWD (Junior)	
3(b)	PVID: 16,000 acres of mesa lands	
4	MWD and/or City of Los Angeles and/or others on coastal plain	550,000
	SUBTOTAL (California’s Basic Apportionment)	4.4 mafy
	If surplus waters available	
5(a)	MWD and/or the City of Los Angeles and/or others on coastal plain	550,000
5(b)	MWD	112,000
6(a)	IID and lands in Imperial and Coachella Valleys: IID (Senior)/ CVWD (Junior)	300,000
6(b)	PVID: 16,000 of mesa lands	
7	Agricultural Use	Remainder
		5.362 mafy

ATTACHMENT 2

QSA Priority 3(a) Colorado River Water Distribution for IID⁵

	Changes in Quantified Amount (in kafy)		QSA-Approved Quantification and Recipient(s) of IID's Water
	2017	2026	
Quantification	3,100	3,100	Quantification of IID's Priority 3a (Exhibit 3 [Column 3])
Individual Reductions From IID's Quantified Amount	-110	-110	MWD (Exhibit 3 [Column 4])
	-100	-200	SDCWA (Exhibit 3 [Column 5])
	-67.7	-67.7	56.2 to SDCWA; 11.5 to SLR parties Exhibit 3 [Column 6])
	-150	0	Salton Sea mitigation water (Exhibit 3 [Column 7])
	-45	-103	CVWD or MWD (Exhibit 3 [Column 8])
	-91	0	MWD (Exhibit 3 [Column 9])
	-11.5	-11.5	Misc PPRs (Exhibit 3 [Column 11])
Total Reduction	-575.2	-492.2	IID's Net Quantified Amount (Exhibit 3 [Column 12])
Net Amount	2,524.8	2,607.8	Amount Secretary Delivers to IID after CRWDA (Exhibit 3 [Column 13])

⁵ Citations in Attachment 2 are to Exhibit B to the CRWDA, attached as **Exhibit 3**, which identifies the Secretary's water distribution for each of the 75 years. Attachment 2 shows the distribution for 2017 and 2026 as year 2017 is the last year for Salton Sea mitigation water and year 2026 shows the effect of the QSA through 2077.

ATTACHMENT 3

PM10 Emission Inventory for Imperial County in Baseline Year 2005 (tpd)

Source Category	Annual Average	Winter Average	Summer Average
Fuel Combustion	0.41	0.35	0.48
Waste Disposal	0.00	0.00	0.00
Cleaning Surface Coatings	0.00	0.00	0.00
Petroleum Production Marketing	0.00	0.00	0.00
Industrial Processes:	2.79	2.79	2.78
Mineral Processes	2.63	2.62	2.64
Food/Agriculture	0.16	0.17	0.14
Solvent Evaporation	0.00	0.00	
Res Fuel Combustion	0.09	0.16	0.02
Farming	9.88	11.55	8.20
Tilling	7.10	8.77	5.42
Harvest	0.01	0.01	0.01
Cattle	2.77	2.77	2.77
Construction	2.20	2.01	2.38
Paved Road Dust	3.38	3.30	3.46
Entrained Unpaved Road Dust	56.85	33.71	79.98
City/County	24.58	14.58	34.59
Canal	29.57	17.54	41.61
BLM/USFS	1.34	0.79	1.88
Farm	1.35	0.80	1.90
Windblown Dust	212.67	223.79	201.95
Open Areas-Urban	0.01	0.02	0.00
Open Areas-Others	169.54	191.09	148.34
Unpaved Roads:	30.52	18.10	42.94
City/County	7.82	4.64	11.00
Canal	16.32	9.68	22.96
BLM/USFS	0.37	0.22	0.52
Farm	6.01	3.56	8.46

Source Category	Annual Average	Winter Average	Summer Average
Non-Pasture Ag Lands	10.81	13.21	8.46
Pasture	1.79	1.37	2.20
Fires	0.00	0.00	0.00
Waste Burning	2.77	2.77	2.77
Cooking	0.06	0.06	0.06
On-Road Mobile	1.05	1.06	1.05
Other Mobile	0.99	0.95	1.04
Total	293	282	304