Bren School of Environmental Science and Management

2017-2018 Group Project Proposal

Presented by the
San Diego County Water Authority

Land Parcel Liability Policy Recommendations for
Air Quality Emissions Control at the Salton Sea
Land Parcel Liability Policy Recommendations for Air Quality Emissions Control at the Salton Sea

CLIENT
San Diego County Water Authority – Colorado River Program
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DESCRIPTION
The 2003 Quantification Settlement Agreement (QSA) enabled the State of California to implement major Colorado River water conservation and transfer programs, stabilizing water supplies for up to 75 years and reducing the state’s demand on the Colorado River to its 4.4-million-acre-foot entitlement. As part of the historic QSA, the San Diego County Water Authority-Imperial Irrigation District water transfer provides up to 200,000 acre-feet of water per year to the San Diego region through water conservation measures in Imperial Valley. For the first fifteen years of this water transfer, mitigation water has been supplied to the environmentally-sensitive Salton Sea to offset any loss in inflows caused by the QSA conserved water transfers. Salton Sea mitigation water is set to expire at the end of 2017, which is predicted to cause a steady decline in the sea’s elevation, exposing shoreline playa that could add significantly to emissions of particulate matter dust known to cause asthma and other health concerns to nearby residents. As shoreline playa is exposed due to the QSA transfers and other non-QSA factors, responsibility of air quality dust control between the land owners; existing environmental mitigation program; and the State’s Salton Sea restoration requirements come into question.

FOCUS AREAS
Air quality, water conservation, water law, environmental law, public policy, environmental mitigation, environmental justice

OBJECTIVES
This project aims to:

1. Develop potential strategies and an overall recommended policy for air quality dust emission control responsibility at the Salton Sea. As the Salton Sea recedes and land parcels are exposed, it is unclear how responsibility for emissive areas of the newly exposed playa will be divided among the responsible parties. The strategies should include components of both environmental and funding responsibilities.
2. Develop a comprehensive survey of projects and costs of successful air quality control projects world-wide. Potentially include results in strategy recommendations based on costs and project characteristics for implementation at the Salton Sea.
SIGNIFICANCE

As the Salton Sea mitigation water for the QSA transfers is set to end in 2017, the Salton Sea’s shoreline elevation will steadily recede, exposing large amounts of playa. The area is known to have high wind events that create fugitive dust emissions known to cause asthma and other health concerns. Particulate matter dust emissions ($PM_{2.5}$ and $PM_{10}$) are hazardous to human health. Imperial County is currently designated as a serious nonattainment area for $PM_{10}$.

The State of California has made recent efforts to develop the Salton Sea Management Program and provide a path forward to a smaller, more sustainable, sea. As agreed to in the QSA, the State of California will become the responsible party for mitigation and restoration at the Sea once the transfers end and the QSA Joint Powers Authority has fulfilled its financial responsibility. It is unclear who will be responsible for controlling emissions on each parcel of exposed playa and to what degree the land should be mitigated dependent upon emissivity.

It is critical that exposed areas which result in high dust emissions be treated to prevent harmful fugitive dust emissions in the Imperial and Coachella communities. The health and well-being of about 400,000 permanent residents will depend on the proper environmental management of land at the Salton Sea.

BACKGROUND

The Salton Sea is the largest lake in California, covering about 376 square miles of Imperial and Riverside counties. It is found in the Salton Basin, which from the earliest documented history has been periodically filled with water, most notably ancient Lake Cahuilla. In its current form, the Salton Sea was created by accident when a dike gave way and the Colorado River flooded the basin in 1905. Since then, the sea has been fed mainly by agricultural runoff in the New and Alamo rivers (which start in Mexico and flow through the Imperial Valley) and the Whitewater River in the Coachella Valley. Today, the Salton Sea provides habitat for a wide range of bird species, including migratory birds on the Pacific Flyway. In recent years, questions have surfaced about the potential impacts on the sea caused by the QSA, a historic set of documents signed in 2003 to reduce California’s use of the Colorado River to its annual allotment of 4.4 million acre-feet largely through water conservation-and-transfer agreements.

The QSA provides the state with a means to manage its Colorado River supplies through a water conservation program funded largely by the San Diego County Water Authority. Related efforts by the Water Authority and its partnering agencies (Coachella Valley Water District and Imperial Irrigation District) to provide environmental funding under the QSA Joint Powers Authority are a critical component of the sea’s future. Through that ongoing effort, the QSA Joint Powers Authority has mitigated the impacts of the water transfers and set the stage for the state to fulfill its commitment for a restoration program at the sea.

As the mitigation water for the QSA water transfers is set to end in 2017, the Salton Sea’s elevation will steadily recede, exposing playa and fugitive dust ($PM_{10}$) that is known to cause asthma and other health concerns to nearby residents. The Imperial Irrigation District, the
State, and the federal government are all large landowners for areas around the sea and areas projected to be exposed. Local farmers also own land in the area. Imperial County air quality regulations put the onus of dust control on the landowner. It is unclear how these regulations interact with QSA environmental mitigation responsibility and overall Salton Sea restoration requirements. Moving forward, who will be responsible for air quality emissions control, and its associated costs, on each parcel of exposed playa and to what degree the land should be controlled dependent upon potential emissivity.

AVAILABLE DATA
Available data include parcel maps and the Salton Sea Analysis (SALSA) Model. This information will be shared at the start of the project.

APPROACHES
1. Review Salton Sea history, background documents, and QSA agreements
2. Map out Salton Sea land ownership and become familiar with the SALSA model
3. Research regions that have dealt with similar situations and lessons learned that can be applied at the Salton Sea
4. Determine options for air quality emissions control responsibility, the costs and benefits of those options, and how they might be carried out
5. Determine recommendation for dust control liability that would best serve all involved stakeholders
6. Survey global best management practices for dust control at dry lake beds and other emissive areas for potential air quality project ideas and cost projections

DELIVERABLES
In addition to the final written report, policy brief, poster and oral presentation, the Water Authority hopes to receive a specific policy recommendation for air quality emissions control responsibility at the Salton Sea.

INTERNSHIPS
The Water Authority is prepared to offer one paid summer internship to a group project member located in San Diego. This water resources student internship will pay $18.11 per hour. The intern will have the opportunity to further the objectives of the Group Project as well as develop professional skills and knowledge and understanding of the work carried out by the Water Authority’s Colorado River Program.
Supporting Materials

Project Background

San Diego County Water Authority, Colorado River Program:
http://www.sdcwa.org/colorado-river-supplies-management

Salton Sea Fact Sheet:

Quantification Settlement Agreement Fact Sheet:

Water Transfer Fact Sheet:

Quantification Settlement Agreement Related Documents:
http://www.iid.com/water/library/qsa-water-transfer

Budget and Justification

The Water Authority will provide an additional $1,000 to be used by group project members for any research-related travel.

Client Letter of Support

Please see next page.
January 27, 2017

Group Project Committee  
Bren School of Environmental Science and Management  
University of California, Santa Barbara

Bren School Group Project Committee,

The San Diego County Water Authority submits this client letter of support as attachment to the ‘Land Parcel Liability Policy Recommendations for Air Quality Emissions Control at the Salton Sea’ group project proposal for the 2017-2018 project year.

The Water Authority is prepared to offer one paid water resources summer internship to a group project member. The location of the internship will be at the Water Authority Kearny Mesa office in San Diego, CA with room for telework if necessary. The internship will pay $18.11 per hour for 20-30 hours per week for the duration of the school’s summer break period. The intern will have the opportunity to further the objectives of the Group Project as well as develop professional skills and knowledge and understanding of the work carried out by the Water Authority’s Colorado River Program.

The Water Authority is prepared to offer an additional $1,000 to be used by group project members for any research related travel. This would include travel to San Diego, Imperial Valley, and the Salton Sea.

Data available for this project include parcel maps and the Salton Sea Analysis (SALSA) Model. This information will be shared at the start of the project with no stipulation for a non-disclosure agreement or restriction for publication. The Water Authority client representatives will also be available for any questions or additional information that may be needed to complete the project.

As Bren School alumni, the Water Authority client representatives, Kara Mathews (2008), and Kimberlyn Velasquez (2012), understand the Bren School group project process and its significant role in the Bren student’s academic and professional career. Please do not hesitate to contact either Kara or Kimberlyn with any clarifying questions. We look forward to the opportunity to work with the Bren School in the year ahead.

Sincerely,

Dan Denham  
Colorado River Program Director  
San Diego County Water Authority