



March 12, 2015

Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I St., 24th Floor
Sacramento, CA 95814
commentletters@waterboards.ca.gov



RE: Comments Regarding the Status of the Salton Sea and Revised Order WRO 2002-2013

Dear State Water Resources Control Board:

On behalf of Audubon California, Defenders of Wildlife, the Pacific Institute and Sierra Club California, we write to submit our comments regarding the status of the Salton Sea and Revised Order WRO 2002-0013. As discussed in the following, we strongly believe that the State Water Resources Control Board ("State Water Board") has a clear and important oversight role to play in ensuring that the State of California meets the obligations it assumed under contract and via statute. The State Water Board should require the Natural Resources Agency (Agency) to submit, by the end of this calendar year, (1) the Agency's estimated annual funding obligations pursuant to the Quantification Settlement Agreement (QSA) and QSA-related legislation, including mitigation payments, (2) the Agency's schedule for developing and implementing a coordinated holistic plan to address the air, wildlife, and water quality problems at the Salton Sea as the water transfer goes into full effect and without the delivery of mitigation water after 2017, and (3) the Agency's identified sources of current and potential future funding to meet the State's financial obligations with respect to the QSA and QSA-related legislation. In addition to providing the above oversight and ensuring accountability, the State Water Board should revise Revised Order WRO 2002-0013 to reflect the final language of the QSA as signed on October 10, 2003, and the clear language adopted by the legislature in 2003 in Senate Bill (SB) 277, SB 317, and SB 654, and in SB 187 in 2008.

The Salton Sea Is Important to California

The Salton Sea provides immense ecological and public health benefits to Californians. The Sea has been designated an Important Bird Area of Global Significance by BirdLife International and the National Audubon Society because it hosts vast numbers of waterbirds and shorebirds throughout the year. It also provides vital public health benefits by covering the playa, which, if exposed will significantly worsen the air quality in the region. Ultimately, the state of the Salton Sea ecosystem will reflect the value of the State's promises to protect public and ecosystem health as it promotes water transfers as a means to improve statewide water supply reliability.

Ecological value

As the State Water Board notes in its *Notice of Public Workshop*, the Salton Sea plays a vital role in sustaining California’s critically-important wildlife values. The following table, copied from the Resources Agency’s 2006 Programmatic Environmental Impact Report,¹ lists many of the important bird species found at the Salton Sea, based on abundance or legal status. The data provided in this table are based on surveys that are in many cases more than 10 years old; we acknowledge that some of these populations have already changed at the Salton Sea due to changing conditions. Audubon is in the process of producing a white paper to update bird data with more recent surveys to better inform planning at the Salton Sea.

This tremendous avian abundance and diversity is the highest in California and the second-highest in the United States. In addition, the Salton Sea has been designated as a Globally Important Bird Area and one of the top 50 Climate Refugia Important Bird Areas by Audubon California.² Simply put, the Salton Sea provides incomparable, irreplaceable avian habitat, benefitting the people of California and the nation.

Table 1. Focal Bird Species and Criteria

SPECIES	CRITERIA
<i>Aechmophorous</i> spp. (Includes Clark’s and Western Grebes)	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
American Avocet	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
American White Pelican	DFG Bird Species of Special Concern Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
Black Skimmer	DFG Bird Species of Special Concern; Service Birds of Conservation Concern - BCR 33 National Waterbird Conservation Plan (species considered Highly Imperiled or of High Concern)
Black Tern	DFG Bird Species of Special Concern
Black-necked Stilt	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
Brown Pelican	Federally endangered species state endangered species ³
California Gull	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
Cattle Egret	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
Double-crested Cormorant	DFG Bird Species of Special Concern; Greater than 10,000 birds counted on single survey (Shuford et al., 2002) ⁴
Dowitcher spp (Includes Long-billed and Short-billed Dowitchers)	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)

¹ California Natural Resources Agency (CNRA) (formerly, the California Resources Agency). 2006. *Salton Sea Ecosystem Restoration Program Draft Programmatic Environmental Impact Report*. Prepared by the California Department of Water Resources (DWR) and California Department of Fish and Game (DFG). Available at http://www.water.ca.gov/saltonsea/documents/draft_eir.cfm.

² <http://ca.audubon.org/important-bird-areas-9>

³ The Brown Pelican is no longer a Federal endangered species.

⁴ More recent surveys indicate that Double-crested Cormorants nest in significantly lower numbers at the Salton Sea than previously because of changing conditions. However, they still winter there in the thousands.

Dunlin	U.S. Shorebird Conservation Plan species or subspecies (4-5 priority score)
Eared Grebe	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
Gull-billed Tern	DFG Bird Species of Special Concern; National Waterbird Conservation Plan (species considered Highly Imperiled or of High Concern) Service Birds of Conservation Concern - BCR 33
Least Bittern	DFG Bird Species of Special Concern
Long-billed Curlew	DFG Bird Species of Special Concern; U.S. Shorebird Conservation Plan species or subspecies (4-5 priority score)
Marbled Godwit	U.S. Shorebird Conservation Plan species or subspecies (4-5 priority score) Service Birds of Conservation Concern - BCR 33
Ring-billed Gull	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
Ruddy Duck	Greater than 10,000 birds counted on single survey (Shuford et al., 2002)
Snowy Egret	National Waterbird Conservation Plan (species considered Highly Imperiled or of High Concern)
Snowy Plover	DFG Bird Species of Special Concern; U.S. Shorebird Conservation Plan species or subspecies (4-5 priority score); Service Birds of Conservation Concern - BCR 33
Western Sandpiper	Greater than 10,000 birds counted on single survey (Shuford et al., 2002); U.S. Shorebird Conservation Plan species or subspecies (4-5 priority score)
Whimbrel	U.S. Shorebird Conservation Plan species or subspecies (4-5 priority score); Service Birds of Conservation Concern - BCR 33
White-faced Ibis	DFG Bird Species of Special Concern; Greater than 10,000 birds counted on single survey (Shuford et al., 2002)

Notes: DFG = Department of Fish and Game [now known as Department of Fish and Wildlife]; Service = U.S. Department of the Interior, Fish and Wildlife Service. Source: CNRA 2006 (App. C, Table C-1).

Public Health Benefits

The Salton Sea also provides quantifiable health benefits to California, by covering playa that could otherwise emit dust. Owens Lake, another lake desiccated by a water transfer, offers a good example of the threat posed by the loss of lake surface in a wind-prone area. The L.A. Department of Water and Power has spent more than one billion dollars on aggressive remediation efforts at Owens Lake, to manage and reduce dust emissions from exposed lakebed dust in an effort to protect public health.

The QSA will decrease the total volume of water flowing into the Salton Sea by roughly 300,000 acre-feet per year once the water transfer is in full effect and the mitigation water ceases to be delivered to the Sea, shrinking the lake’s surface area by tens of thousands of acres. This shrinking lake will increase the amount of dust-emitting playa exposed at the Salton Sea relative to the pre-QSA baseline by the same area, potentially increasing the amount of dust emitted in the air basin by scores of tons per day. This dust will further degrade the already poor air quality in the Coachella and Imperial valleys, adversely affecting the health of the 650,000 residents of the two valleys, as well as the health of the hundreds of thousands of annual visitors to the area. The Pacific Institute’s recent *Hazard’s Toll: The Costs of Inaction at the Salton Sea* (available at <http://pacinst.org/publication/hazards-toll/> and incorporated here by reference) estimates the 30-year present value costs of this public health impact to run into the tens of billions of dollars.

The Costs of Inaction

The declining Salton Sea will impose massive public health and environmental costs on local residents and Californians generally, as described in the Pacific Institute report [Hazard's Toll](#). The continued failure to protect and preserve the Salton Sea, worsening air quality and the loss of valuable ecological habitat – combined with diminished recreational revenue and property devaluation – could cost as much as \$70 billion over the next 30 years.

The projected \$9 billion cost of the Natural Resources Agency's 2007 preferred alternative for the Salton Sea has inhibited deliberation and deterred any meaningful investment in revitalizing the Salton Sea. Because the Salton Sea has changed over the past decade and will soon enter a period of very rapid decline due to the cessation of mitigation water deliveries, the costs of inaction are escalating rapidly. Even at the low end of the costs estimated in [Hazard's Toll](#), the long-term social and economic costs of a deteriorating Salton Sea could approach \$29 billion, well in excess of the project cost of the State's plan.

The costs of inaction reflect both chronic and acute public health costs, diminished property values in the region due to real and perceived disamenities associated with the ecological collapse of the Salton Sea and resultant downwind dust and odors, and the loss of ecological values to California residents generally as the Salton Sea no longer supports the tremendous avian abundance and diversity noted above.

Too Big to Fail

As the QSA transfer schedule ramps up to its maximum volumes, more than 367,000 acre-feet of Colorado River water⁵ will move from the Imperial Valley to urban Southern California, greatly improving water supply reliability for the region and for the state as a whole and avoiding additional pressure being brought to bear on the fragile Bay Delta system. This firm, reliable water supply greatly benefits California, helping to offset the State Water Project allocation reductions due to the continuing drought.

The State's explicit commitment to assume liability for mitigation costs above the \$133 million commitment from the QSA parties was central to the completion of the QSA. Without this State commitment, the 19 million people in The Metropolitan Water District of Southern California's (MWD's) service area would face chronic rationing, diminishing their quality of life and economic productivity in the region. Moreover, the loss of this transfer water would have increased MWD's service area's reliance on water delivered from the declining California Bay Delta system.

The State's failure to provide assurance that it will meet its mitigation obligations – either through a clear, transparent funding plan or through leadership on the development of a vision for Salton Sea restoration/mitigation – will have a chilling effect on future water transfer agreements that require state involvement. In effect, the State's inaction not only jeopardizes the current QSA, but also diminishes the likelihood that other large-scale water transfers will occur to improve the State's overall water reliability. The notion that the QSA is too big to fail requires the State to develop a sound financial plan and a coordinated, holistic plan to address the air, wildlife, and water quality problems at the Salton Sea,

⁵ This volume includes 200,000 acre-feet (AF) of Colorado River water to be transferred each year from IID to SDCWA, as much as 100,000 AF from IID to MWD or to CVWD, and an additional 67,700 AF from the lining of the All-American Canal to SDCWA and the San Luis Rey tribe. This does not include an additional 110,000 AF transferred from IID to MWD under the terms of their 1989 transfer agreement.

lest those problems become so acute that postponing the transfer is the only viable means to minimize the looming and enormous threat to public and ecosystem health.

The tremendous scale of the problems at the Salton Sea and the size of the Sea itself, combined with the time required to design, permit, and construct appropriate air quality and habitat projects in the region indicate that the State must develop its financial and holistic plans *before* the impacts of the full transfer are felt at the Salton Sea and in the surrounding communities. Quite frankly, this work should have begun years ago. The Natural Resources Agency's lack of urgency regarding the imminent collapse of the Salton Sea ecosystem and subsequent threats to public health underscore the timeliness of IID's request for relief and the importance of State Water Board oversight and intervention.

State Water Board Assertions

The State Water Board's Notice suggests that IID's requested relief may not be appropriate for three reasons. For the reasons set forth below, we do not agree with the State Water Board's assertions, which downplay the need for action by the State.

1. "First, although the conserved water transfer from IID to SDCWA, CVWD, and MWD has the potential to exacerbate the air and water quality problems at the Salton Sea, those problems would exist in the absence of the transfer."

While it is correct that these problems will exist – to a smaller degree – in the absence of the transfer, the transfer dramatically and measurably exacerbates the magnitude and the timing of these problems. Although salinity will continue to rise at the Salton Sea whether or not the transfer continues, it is indisputable that the cessation of mitigation water deliveries at the end of 2017 and the ramp-up of transfer volumes will lead to a tripling of the lake's salinity within 10-12 years, a rate that will exceed the ability of most aquatic species to adapt, leading to ecological collapse. The rapid accelerated decline of the Sea from the transfer itself drives this unacceptable rate of change, one that will also create noxious odors and economic repercussions that will ripple throughout the region. The transfer of some 300,000 AF of water out of the Imperial Valley in effect comes directly from the Salton Sea, causing additional lakebed exposure – and the resulting air quality and health impacts – that would not occur in the transfer's absence.

2. "Second, the California Water Action Plan calls for the Natural Resources Agency, in partnership with the Salton Sea Authority, to take the lead on coordinating state, local and federal restoration efforts and working with local stakeholders to develop a shared vision for the future of the Salton Sea."

While we appreciate the efforts of the Deputy Secretary of the Natural Resources Agency to coordinate with stakeholders and attempt to direct funding toward local efforts, the Natural Resources Agency – as a whole and during the last 13 years of the water transfers – has failed to develop the vision noted by the State Water Board's Notice. The Agency's 2007 Salton Sea Ecosystem Restoration Program Final Programmatic Environmental Impact Report presented a restoration plan that was so bloated, expensive and unreasonable that it was never adopted by the California Legislature. And, the California Department of Fish and Wildlife and Department of Water Resources have yet to create a single acre of habitat from their Species Conservation Habitat Project despite the fact that this project has been in process since 2010 and was certified in 2013. Moreover, the Agency has not delivered any kind of plan to demonstrate that the State will be able to pay for the mitigation responsibilities that will arise after

the transfer goes into full effect and QSA mitigation costs exceed the annual funding available from the QSA Joint Powers Authority. In addition, the refusal of the Department of Fish and Wildlife to staff the Salton Sea Restoration Council in 2011, as required by SB 51 (2010), demonstrates the absence of good faith efforts by DFW and the Agency to provide the leadership and support required by the California Water Action Plan and by state law.

3. "Third, making approval of the transfer contingent on restoration of the Salton Sea has the potential to unravel the complex series of agreements that make up the QSA, which would have significant water supply implications for the State."

We disagree with this assertion by the State Board. Instead, we believe that the failure of the State to demonstrate good faith and undertake some kind of plan to address the imminent decline of Salton Sea has the potential to create an unacceptable public health and ecological crisis at the Salton Sea, a crisis that will lead to litigation as the local air pollution control district takes enforcement actions against local landowners with dust-emitting playa (including IID and the federal government), who will in turn either sue the State for failing to meet its mitigation funding responsibilities in a timely fashion or will simply stop transferring water out of the Imperial Valley until sufficient mitigation funding and mitigation projects materialize. Indeed, unless substantial progress is made, it will be the failure of the State to meet its mitigation obligations that will generate significant water supply problems for California, not IID's petition.

Issues for Discussion at the Workshop

1. How can the State Water Board promote implementation of a reasonable and sustainable plan to address the air, wildlife, and water quality problems at the Salton Sea?

In Revised WRO 2002-013, the State Water Board reserved authority to consider changes to the order based on new information. The State's assumption of liability for the QSA transfer and the related QSA legislation committing the State to undertake the restoration of the Salton Sea both fall within this new information countenanced by the SWRCB because it occurred after 2002. As requested by IID, the State Water Board should convene a series of stakeholder meetings, in conjunction with the Natural Resources Agency, to develop a plan to address the problems of the Salton Sea. The credible threat of postponing the QSA transfers has already proven to be a valuable incentive to bring the State and the QSA parties to the table to discuss appropriate mechanisms for moving forward. The State Water Board should wield this authority to ensure the timely development and implementation of a funding and habitat/air quality plan at the Salton Sea.

2. If there is a necessary and appropriate role for the State Water Board, what specific issues or obstacles need to be addressed, and in what sequence and timeframe?

The key issues to date are (a) the absence of a clear funding plan for the State's mitigation obligations that demonstrates a schedule for funding and adequate funding sources, (b) the absence of leadership from the Natural Resources Agency to develop a viable plan and vision for the Salton Sea, and (c) the absence of any sense of urgency regarding the timing and magnitude of the air, wildlife, and water quality problems at the Salton Sea. The State Water Board should require the Natural Resources Agency to submit, by the end of this calendar year, (1) the Agency's estimated annual funding obligations pursuant to the Quantification Settlement Agreement (QSA) and QSA-related legislation, including mitigation payments, (2) the Agency's schedule for developing and implementing a coordinated holistic

plan to address the air, wildlife, and water quality problems at the Salton Sea, and (3) the Agency's identified sources of current and potential future funding sources to meet the State's financial obligations.

3. What changes, if any, should the State Water Board consider making to Revised Order WRO 2002-0013?

The State Water Board should revise Revised Order WRO 2002-0013 to reflect the final language of the QSA as signed on October 10, 2003, and the clear language adopted by the legislature in 2003 in SB 277, SB 317, and SB 654, and in SB 187 in 2008. The State Water Board may also need to revise Revised Order WRO 2002-0013 to reflect the additional conditions and requirements suggested above, toward ensuring the timely satisfaction of the State's existing obligations.

The presumption that the QSA is too big to fail does not justify neglecting State financial obligations nor its obligations to protecting human health, or to preserving California's fish and wildlife resources. If the State does not act in good faith for this water transfer, it will jeopardize the continuation of the QSA water transfer and chill future water transfer efforts in other parts of California, jeopardizing the state's long term water reliability. The State Water Board should take immediate action and offer the relief requested by IID's petition.

Sincerely,



Michael Cohen
Senior Associate
Pacific Institute



Kimberly Delfino
California Program Director
Defenders of Wildlife



Michael Lynes
Director of Public Policy
Audubon California



Kyle Jones
Policy Advocate
Sierra Club California

HAZARD'S TOLL

The Costs of Inaction at the Salton Sea

EXECUTIVE SUMMARY

The Salton Sea, a 350 square mile saltwater lake in southeastern California, faces disaster. In the next fifteen years:

- The amount of water flowing into the lake will decrease by about 40%;
- Its surface will drop by twenty feet and its volume will decrease by more than 60%;
- Salinity will triple; and
- The shrinking lake will expose 100 square miles of dust-generating lake bottom to the region's blowing winds, worsening the already poor air quality in the region.

To date, neither the state legislature nor any other agency has taken any action to fund any Salton Sea revitalization plan. In 2003, California accepted responsibility for funding air quality management projects at the Salton Sea, but the legislature has yet to take any action to fund such projects. A local agency is developing plans for air quality management on a portion of the exposed Salton Sea lakebed, but it lacks the funding necessary to implement these plans. With the exception of three relatively modest habitat projects scheduled for construction next year, no projects are currently funded or expected to be constructed at the Salton Sea in the near future. As a result, the lake's habitat value for hundreds of species of resident and migratory birds will rapidly decline, affecting hundreds of thousands of birds and diminishing the lake's appeal.

If current trends continue, by 2045:

- As much as 150 square miles of lakebed will be exposed;
- Exposed lakebed will add as much as 100 tons of fine dust into the air *per day*;
- The total population of the air basin (currently about 650,000) will nearly double;

- The lake will be filled with algae, bacteria, and viruses, providing no value to birds or people.

These deteriorating conditions at the Salton Sea will have adverse impacts on public health, property values, agricultural production, recreational revenue, and the region's habitat value for birds and wildlife generally. These impacts impose costs on people in the area and, to a lesser extent, on Californians generally.

Many people assume that deferring Salton Sea-related decisions and actions will not result in any additional costs, implicitly assigning these impacts a value of zero. Decision-makers have weighed the high costs of Salton Sea revitalization and the lower but still significant costs of mitigation against this assumed zero cost of not taking action, and have yet to approve or fund any major projects at the Salton Sea. This inaction and delay imposes real costs.

Objective

The objective of this report is to estimate the costs of inaction - defined as the absence of any large-scale revitalization or air quality management project - at the Salton Sea, to provide decision-makers and the



Bombay Beach ruin, on the shore of the Salton Sea.

Photograph © Andrew Morang / worldofdecay.blogspot.com.

general public with information for deciding on a path forward. Specifically, this report estimates the impacts of the deteriorating Salton Sea on:

- health care costs, due to the adverse impact that increased dust emissions have on human health;
- regional property values, due to real and perceived health threats and declining aesthetic value;
- agricultural productivity, due to dust emissions and loss of the Sea's buffering impacts on temperature and humidity in nearby farmland;
- recreational revenues; and
- ecological values, including impacts to threatened and endangered species.

The Costs of Action

The California Natural Resources Agency estimated the capital cost for its 2007 preferred Salton Sea revitalization alternative at about \$10 billion (all costs adjusted to 2013 dollars), plus annual operations & maintenance costs of \$150 million once fully constructed, yielding a total present value of \$9.6 billion at a 4% discount rate, through the year 2047. These projected revitalization costs are separate and distinct from the costs projected for mitigating (off-setting the impacts of) the Imperial Valley-San Diego water transfer. The present value of the state's conceptual mitigation plan is about \$1.7 billion through 2047. These values represent the costs of 'action' at the Salton Sea.

Inaction Costs - Public Health

Many scientific and medical studies document the link between blowing dust and a broad range of public health impacts, including childhood and adult asthma, cardiac disease, lung cancer, and increased mortality rates. Two previous studies suggest methods to estimate the magnitude of these costs at the Salton Sea: based on the estimated per capita cost of exceeding federal air quality standards, or based on a cost per unit of exposed dust. Using the first method, the public health costs of continuing not

to meet federal air quality standards - exacerbated by expected Salton Sea dust emissions and a rapidly growing population - generate a present value as high as \$21 billion. Using the second method, under a worst case scenario, with high projected dust emissions and very limited air quality management, the present value cost of uncontrolled dust emissions on public health could be \$37 billion through 2047. Assuming a much lower rate of emissions and implementation of dust control measures on portions of the exposed Salton Sea lakebed reduces the estimate of public health costs to about \$3 billion. Annual public health costs increase as the Salton Sea shrinks, exposing more dust-emitting lakebed; but even in the near term, they could still exceed hundreds of millions of dollars per year.

Inaction Costs - Property Value

Studies on the economic impacts of environmental hazards in other areas, such as landfills, confined animal feeding operations, and refineries, offer methods for estimating potential impacts to property values at the Salton Sea. Regional or state polling data on public perceptions of the Salton Sea would be informative, but no such polls have been conducted in at least a decade. Blowing dust and the stigma associated with a deteriorating lake pose a risk to property values within several miles of the lake, suggesting that property devaluation in the immediate area associated with the deteriorating Salton Sea is likely to be at least \$400 million. Dust and noxious odors could also depress property values and revenues in the Coachella Valley more broadly, which includes 124 golf courses as well as numerous resorts and vacation homes, so the total impact on property values could be as much as \$7 billion.

Inaction Costs - Agricultural Productivity

Insufficient information exists to estimate the potential costs associated with either the impacts of blowing dust and salt on crop productivity near the Salton Sea or the diminished micro-climate benefits that will occur as the lake shrinks. Both of these impacts will be felt within a few miles of the Salton

Sea, so their overall cost may be small relative to the magnitude of Imperial and Coachella valley agriculture generally, but these impacts could be significant at the scale of the individual farm.

Inaction Costs - Recreational Revenues

The future Salton Sea will continue to experience declines in visitation to the lake and in direct recreation-related expenditures. Recent declines have caused a loss of \$6 million per year in direct spending at the Salton Sea State Recreation Area relative to estimated historic rates, suggesting the loss of \$110 - \$150 million in present value through 2047. Given the absence of records or surveys of current and historic expenditures for Salton Sea recreation as a whole, this rough estimate should be considered very conservative.

Inaction Costs - Ecological Values

The Salton Sea currently provides tens of thousands of acres of shoreline and near-shore habitats to hundreds of thousands of birds. More than 400 species of birds use the Salton Sea, including a large number of special status species. As the lake deteriorates, the size and quality of its habitats will diminish, reducing its value to the resident and migratory birds that depend upon it. Through contingent valuation surveys and other methods, people have expressed a willingness to pay to preserve similar values at other locations. Previous studies have indicated that Californians as a whole have valued wetland habitats at about \$60,000 per



Caspian tern at the Salton Sea.

Photograph © Jenny E. Ross / www.jennyross.com.

acre, suggesting that the Salton Sea provided some \$2.6 billion annually in shoreline habitat value as recently as the year 2000. Transferring the benefits Californians have reported for Mono Lake suggests a potential non-use valuation of the Salton Sea on the order of \$1.9 billion annually. Depending on the discount rate, these annual values translate into present values ranging from \$10 billion to \$26 billion through 2047.

Conclusion

The high costs of the California Natural Resources Agency's proposed 'preferred alternative' have inhibited deliberation and deterred any meaningful investment in the revitalization of the Salton Sea. The assumption seems to be that delaying action at the Salton Sea will result in business as usual, with no additional costs. This is clearly not the case. Because the Salton Sea has changed over the past decade and will soon enter a period of very rapid deterioration, the costs of inaction are escalating rapidly. *When* a project is implemented dramatically affects the inaction costs estimated above. Postponing decisions and actions for the Salton Sea imposes significant costs on the people and property owners in the region, and lesser costs on Californians generally.

Figure ES-1 compares the project costs of the state's proposed revitalization alternative and of its conceptual mitigation plan with the estimated inaction costs for public health and non-use benefits, and with the one-time estimated devaluation of property in the region, through the year 2047. In the figure, the higher estimated inaction costs appear in red, while the lower estimates appear in orange. These estimated costs provide an initial basis for comparison with the estimated project costs of revitalization or mitigation, shown in black, to demonstrate that the costs of inaction are not zero. Even at the low estimate, the long-term social and economic costs of a deteriorating Salton Sea could approach \$29 billion, well in excess of the project cost of the state's revitalization plan. A more robust comparison would require additional information about the total economic costs and benefits of the revitalization and mitigation projects.

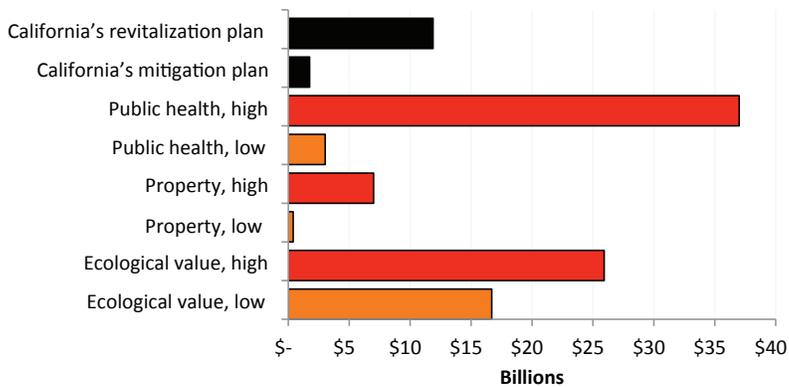


Figure ES-1. Present values of estimated costs of Salton Sea action and inaction, through 2047.

Figure ES-1 indicates that the costs of inaction greatly exceed the costs of action at the Salton Sea, strongly suggesting that action at the Salton Sea should be funded and implemented quickly. However, not all 'actions' would avoid the 'inaction' costs: a mitigation plan designed only to control dust emissions would not

improve recreation in the region, nor would it improve property values or promote economic development; such a plan would do little to improve declining ecological values. A project that both controls dust and creates habitat could limit or avoid public health costs, reduce or eliminate impacts to property values, and maintain or even enhance ecological values. A more comprehensive revitalization plan should also be evaluated within this broader context of created benefits and avoided costs. In all cases, delaying action imposes real costs.

The consequences of continued inaction at the Salton Sea will be felt most directly by the 650,000 people who live in harm's way of the Salton Sea's dust, as well as by the birds and other life that depend on the lake. These consequences generate real costs. These considerable costs, estimated for the first time by this report, demonstrate the urgent need for action at the Salton Sea.

Hazard's Toll The Costs of Inaction at the Salton Sea

By
Michael J. Cohen

September 2014

A report of the



654 13th Street
Oakland, California 94612
Telephone (510) 251-1600
info@pacinst.org
www.pacinst.org

complete report available online at pacinst.org/publication/hazards-toll

©Copyright 2014. All Rights Reserved