To: The Bureau of Reclamation
(CRB-info@usbr.gov)

Cc:

Gavin Newsom, Governor of California
Dianne Feinstein, U.S. Senator for California
Alex Padilla, U.S. Senator for California
Tanya Trujillo, Assistant Secretary for Water and Science, U.S. Department of the Interior
Camille Calimlim Touton, Commissioner of the Bureau of Reclamation
Wade Crowfoot, California Secretary for Natural Resources
Jared Blumenfeld, California Secretary for Environmental Protection
Karla Nemeth, Director of the California Department of Water Resources
Raul Ruiz, M.D., U.S. Congressman for the 36th District of California
Juan Vargas, U.S. Congressman for the 51st District of California
Ben Hueso, California State Senator, District 40
Eduardo Garcia, California Assemblymember, District 56
Arturo Delgado, Assistant Secretary of Salton Sea Policy
Christopher Harris, Executive Director, Colorado River Board of California
Joaquin Esquivel, Chair of the California State Water Resources Control Board
James Newcomb, Assistant Deputy Director, California Department of Water Resources
Vivien Maisonneuve, SSMP Lead for the California Department of Water Resources
Tonya Marshall, Salton Sea Program Manager, California Department of Fish and Wildlife
Salton Sea Long-Range Planning Committee of the California Natural Resources Agency

RE: Input on Development of Post-2026 Colorado River Management Strategies (87 FR 37884)

August 29, 2022

To the Bureau of Reclamation:

I am writing to submit comments in response to the June 24, 2022 Federal Register notice by the Bureau of Reclamation (USBR) and the U.S. Department of the Interior (Interior) entitled "Request for Input on Development of Post-2026 Colorado River Reservoir Operational Strategies for Lake Powell and Lake Mead Under Historically Low Reservoir Conditions" (87 FR 37884). Specifically, my comments relate to the request for input on "potential substantive elements and strategies for post-2026 operations to consider in the anticipated upcoming NEPA process(es)." **I urge USBR and Interior to incorporate the ongoing Salton Sea crisis as a "substantive element," and to include support for permanent Salton Sea restoration as an "operational strategy," in post-2026 Colorado River management.** My comments are also relevant to the ongoing decision-making process concerning potential major reductions in allocations of water to the Colorado River Basin states beginning in 2023.

The Colorado River's water has been over-allocated for many years, and now the chronic and severe supply-demand imbalance on the river has become an acute emergency requiring significant modifications in the way the river's water is managed. As climate warming continues to cause worsening aridity across the Colorado River Basin (the Basin), it must be accepted by everyone involved that greatly decreased streamflow is the hydrologic reality the Basin states must live with for the long term. Consequently, there is clearly an urgent need to reduce consumptive use of the river's water, both now and in the future. But many difficult decisions must be made regarding how to accomplish that objective.

As all of the Basin stakeholders are aware, the Imperial Irrigation District (IID), in Imperial County, California adjacent to the Salton Sea, holds senior rights to the single largest entitlement to Colorado River water. The river is IID's only source of water to serve the needs of all domestic, commercial, industrial, and agricultural users throughout Imperial County. What is not generally well-understood, however—and

what has not been previously accounted for in an adequate manner by USBR and Interior in operational strategies and management actions—is that Colorado River water usage by IID is tightly linked with the fate of the Salton Sea. Currently the lake is completely dependent on Colorado River wastewater, mostly in the form of hundreds of thousands of acre-feet of IID's irrigation drainwater, flowing into the central Salton Basin. Apart from IID's wastewater, nearly all of the rest of the water sustaining the Salton Sea also originates from the Colorado River and consists of wastewater from allocations of the river's water to the Coachella Valley Water District (CVWD) in Riverside County, California and to the Republic of Mexico (Mexico).

Contrary to widespread but mistaken popular belief, the Salton Sea is not a man-made body of water created accidentally at the beginning of the 20th century. Furthermore, it does not owe its existence to 20th-century Colorado River infrastructure, even though it is now dependent upon Colorado River wastewater. As I explained in a peer-reviewed scientific study published in 2020,[1] when the Colorado River flooded into the Salton Basin in 1905-1907, enhancing the size of a lake containing Colorado River water that already existed there, the river was simply behaving in the same manner it had for millions of years. Geologic evidence establishes that the northern Salton Trough, containing the Salton Basin in which the Salton Sea lies, became a natural part of the Colorado River's hydrologic system about five million years ago when the river first arrived at the Gulf of California. As the river meandered throughout its delta region, which gradually became uniquely bifurcated into northern and southern lobes as the result of tectonic processes,[2] its waters flowed into the Salton Basin and sustained estuarine, deltaic, lacustrine, and other wetland ecosystems. That important hydrologic connection between the Colorado River and the Salton Basin continued to exist for millions of years until the river was intentionally prevented from flowing into the Salton Basin anymore in the 20th century.

The Colorado River's natural hydrologic regime across its delta region, and the rich aquatic ecosystems in the Salton Basin—including enormous lakes—that the river created and supported, were abruptly altered forever when the river's route into the northern Salton Trough was deliberately and permanently blocked. Preventing the Colorado River from flowing naturally into the Salton Basin as it had done for millions of years was a primary motivating factor for the Boulder Canyon Project Act and the construction of Hoover Dam and other key infrastructure on the river.[3] That 20th-century water-management infrastructure enabled the Colorado River Basin states to develop in the manner they have during the past one hundred years. But fully controlling the Colorado River, permanently severing its natural connection with the Salton Basin, and exhaustively exploiting the river's water also sealed the fate of the Salton Sea; the demise of the lake was assured without additional human intervention.

Ever since full control of the Colorado River was attained using USBR infrastructure, the Salton Sea and its crucial ecosystem have been reliant on very large quantities of Colorado River wastewater flowing into the central Salton Basin as a result of the use of the river's water by IID, CVWD, and Mexico. Throughout the

[1] Ross, J.E. (2020). Formation of California's Salton Sea in 1905-07 was not "accidental." In: Miller, D.M. (Ed.), Proceedings of the 2020 Desert Research Symposium, pp. 217-230. (Available online at: https://www.researchgate.net/publication/340038533_Formation_of_California's_Salton_Sea_in_1905-07_was_not_accidental.)

[2] Tectonic processes occurring at the boundary of the Pacific and North American plates, primarily manifested by movement along faults in the San Andreas fault system, caused the Colorado River's delta region to gradually transform from a typical fan shape into two hydrologically connected lobes that are now located to the north and south of the U.S.-Mexico border. The northern delta lobe in the northern Salton Trough contains the below-sea-level Salton Basin and Salton Sea, as well as the Imperial Valley; the southern delta lobe contains the Mexicali Valley and the subaerial delta region typically referred to as "the Colorado River delta," as well as the subaqueous delta at the head of the Gulf of California. See, e.g., Winker, C.D., and Kidwell, S.M., 1986. Paleocurrent evidence for lateral displacement of the Pliocene Colorado River delta by the San Andreas fault system, southeastern California. Geology 14:788-791.

[3] See, e.g., LaRue, E.C. (1925). Water, Power and Flood Control of Colorado River below Green River, Utah. Washington: Government Printing Office. 171 pp.

20th century, that inflow enabled the lake to continue sustaining millions of resident and migratory birds and hundreds of millions of fish, including threatened and endangered species. The Salton Sea is situated in a critical location for avian migration, at the juncture of the Pacific Flyway and the Intermountain West. Accordingly, more than 400 species of birds rely on the Salton Sea ecosystem—many of them the same species that have used lakes and wetlands in the Salton Basin for millions of years, as the fossil record shows. Moreover, as inland aquatic ecosystems across the western U.S. have withered since the 19th century, and many have vanished, the Salton Sea has transitioned from being ecologically important to being indispensable for the continued survival of numerous species.

Pursuant to the 2003 Quantification Settlement Agreement (QSA), during the past twenty years IID has conserved more than 7 million acre-feet (MAF) of Colorado River water that Imperial County would otherwise have been entitled to use pursuant to the Law of the River. As required by the QSA, IID is transferring hundreds of thousands of acre-feet annually to other Colorado River stakeholders in Southern California urban areas that have junior water rights, including the San Diego County Water Authority, the Metropolitan Water District of Los Angeles, and CVWD. Those water transfers started in 2003 and will continue for decades to come. When the transfer amounts to all recipients are fully ramped up in a couple of years, they will total nearly 500,000 acre-feet annually.

As the amount of Colorado River wastewater flowing into the central Salton Basin shrinks, so does the Salton Sea. Thus, because of the major reductions in IID's use of Colorado River water mandated by the QSA, the Salton Sea is shriveling, its salinity is rapidly rising, the ecosystem is collapsing, and increasingly vast expanses of desiccated lakebed are polluting the air with hazardous dust. Consequently, serious harm is occurring to hundreds of wildlife species dependent on the Salton Sea as essential habitat, and to the health of people across a large geographic area near the shrinking lake. (See, e.g., Attachments A-D.) The State of California is attempting to address the severe and worsening ecological and public health impacts of the Salton Sea's water-deprivation, but those efforts are being outpaced by the growing magnitude of the crisis. And now, as the Colorado River faces its own water-supply emergency because of chronic overuse and the effects of climate change, the dire situation at the Salton Sea is poised to become even more grim.

Notwithstanding IID's high-priority water right, it appears certain that the agency will be required to cut back even more on the amount of Colorado River water it uses than it is doing already pursuant to the QSA. But IID cannot decrease its use of the river's water further without exacerbating the dreadful environmental, ecological, and public health crisis already ongoing in its own backyard. Therefore, **in order to enable IID's participation in water-usage cutbacks and long-term solutions for the Colorado River's severe supply-demand imbalance, it is essential to decouple IID's use of Colorado River water from the Salton Sea's fate while permanently restoring the lake and its ecosystem. This can and must be done, and it should be done as part of the post-2026 Colorado River management regime to be developed by USBR and Interior.**

Numerous long-range plans have been proposed to address the Salton Sea crisis and revitalize the ecosystem in different ways and to varying degrees. The proposed plans fall into two general categories: so-called "in-basin" plans that use only the water available as wastewater inflows into the central Salton Basin, and ocean water importation plans.

- **Proposed in-basin long-range plans** all rely on extremely large amounts of Colorado River wastewater flowing into the central Salton Basin to fill large earthen impoundments constructed on the Salton Sea's exposed lakebed for habitat and recreation. Such plans implement dust control measures on other portions of the lakebed, and leave a large brine sink incapable of supporting wildlife in the lowest region of the central basin. In addition to their unsustainable dependence on the use of Colorado River water, all in-basin plans suffer from many other inherent flaws that render them gravely inadvisable and fundamentally undermine their viability. For example: Habitat features and recreational components of such plans use wastewater and previously sequestered subsurface sediments containing contaminants, including legacy

pesticides such as DDT, that could pose serious risks of harm to wildlife and people; the features of such plans are highly likely to emit major quantities of greenhouse gases on an ongoing basis for the foreseeable future;[4] very large impoundments, including ones to be used for recreation, will be built on top of or adjacent to significant faults and fault zones underlying the lakebed, and will be vulnerable to collapse in the event of a large earthquake; and such plans will result in the exposure of vast areas of lakebed that are very likely to emit enormous amounts of hazardous dust that will be blown throughout the region and will grievously threaten public health—not only in the Salton Sea area, but also potentially across large portions of Southern California, southwest Arizona, and northwest Mexico.

- **Proposed ocean water importation plans** entail refilling the entire Salton Sea and restoring a huge, robust saltwater ecosystem capable of supporting the numbers and diversity of species, including millions of birds and fish, originally sustained by the lake. In addition, this type of plan would avoid all of the many serious problems afflicting in-basin plans, including the important ones noted above. Crucially, ocean water importation is the only long-term restoration method that can fully and permanently decouple the fate of the Salton Sea from an uncertain and shrinking Colorado River water supply.

In addition to their many other major defects, all proposed in-basin long-range plans for the Salton Sea are fatally flawed because they depend on the continued availability of enormous quantities of Colorado River wastewater flowing into the central Salton Basin permanently. That requirement is extremely unlikely to be fulfilled as the effects of climate warming continue to cripple the over-allocated river. In light of the nature and severity of the Colorado River crisis, it must be assumed that it will be impossible to sustain any in-basin plan for Salton Sea restoration over the long term, because the very large amounts of Colorado River wastewater required will not exist in the future. To move forward with such a plan would be tantamount to selecting a no-action alternative, because the same harmful consequences are ultimately almost certain to result.

On the other hand, ocean water importation to refill the Salton Sea and reestablish its ecosystem is the only approach that can achieve permanent restoration of the lake and full protection of both wildlife and people, while also breaking the tight linkage between Colorado River water usage and sustenance of the Salton Sea. Pursuant to such a plan, the restored lake will have an enduring source of water independent of the Colorado River that will be immune to the future vagaries of climate change and to increasing aridification across the Colorado River Basin. It will also be unaffected by potential future policy decisions regarding decreased allocations of Colorado River water, and it will suffer no adverse effects as the result of possible recycling and reuse of the river's water by IID, CVWD, and Mexico. Accordingly, an ocean water importation plan will enable IID—as well as CVWD and Mexico—to significantly reduce the use of Colorado River water while not causing harm to the Salton Sea, to the wildlife reliant on the lake, or to public health. Such a plan will fully restore essential habitat to conserve hundreds of species that will otherwise face grave threats to their survival, it will enhance the health and well-being of people throughout the surrounding region rather than dangerously threatening them, and it will facilitate long-term solutions for achieving sustainability of the Colorado River system.

[4] Ross, J.E. (2022). Potential Major Greenhouse Gas Emissions from Proposed Salton Sea Long-Range Plans. Report submitted to the Salton Sea Long-Range Planning Committee of the Salton Sea Management Program, California Natural Resources Agency. January 27, 2022. 14 pp. DOI: 10.13140/RG.2.2.36775.62884. (Available online at: https://www.researchgate.net/publication/360029978_Potential_Major_Greenhouse_Gas_Emissions_From_Proposed_Salton_Sea_Long-Range_Plans.) Also see the Supplementary Information for that report, explaining the possible magnitude of the greenhouse gas emissions that may result from implementation of proposed in-basin long-range plans for the Salton Sea that leave vast areas of lakebed exposed, and that include other components that are potentially large sources of carbon emissions: DOI: 10.13140/RG.2.2.10089.36964. (Available online at: https://www.researchgate.net/publication/360030144_SUPPLEMENTARY_INFORMATION_for_the_Report_Potential_Major_Greenhouse_Gas_Emissions_From_Proposed_Salton_Sea_Long-Range_Plans.)

An independent and multidisciplinary panel of experts (the "Independent Panel"), under contract with the State of California, is currently evaluating the feasibility of several proposed long-range plans for ocean water importation to achieve restoration of the Salton Sea. The plans being considered involve withdrawing seawater from the Gulf of California and will require the cooperation of Mexico. The Independent Panel is expected to release its final report sometime in September 2022. Based on the initial reports previously issued by the Independent Panel and other information, it appears very likely that the final report will conclude ocean water importation is indeed feasible—both from an engineering perspective and from other standpoints—and that it will present at least one possible plan to accomplish full and permanent Salton Sea restoration by that means.

The proposed ocean water importation plans that are currently being evaluated by the Independent Panel include mechanisms to provide significant benefits to Mexico. For example, one proposal includes: (a) excess capacity in water conveyance infrastructure, in addition to what is needed for Salton Sea restoration, that could support an additional water supply for Mexicali of 300,000 to 400,000 af/year; (b) an option for additional desalination capability, beyond what is required to attain and maintain restoration of the Salton Sea, that could supply Mexicali and Tijuana with potable water via existing freshwater canal and pipeline infrastructure; (c) substantial recovery of refined salt and solar salt from the desalination process that would increase the supplies available to Mexican salt exporter Exportadora de Sal,[5] and thereby enable Mexico to profit directly from commercial sale of that additional salt to the world market; (d) surplus 24/7 solar power, beyond what is needed to operate restoration infrastructure, which would be generated from salinity gradient solar ponds and available for use by Mexico; and (e) no discharge of concentrated brine to the sensitive environment in the Mexicali Valley, Colorado River delta, or Gulf of California.

The problems stemming from the Salton Sea's water-deprivation are significant and complex, and the actions required for achieving and sustaining real solutions to those problems are likely beyond the capacity of one state acting alone. Particularly daunting are the major expenses involved for construction, operation, and long-term maintenance of a restoration project with infrastructure in two countries. But failure to implement an ocean water importation plan to restore the Salton Sea would be far more costly if all types of harmful consequences are considered. Moreover, the high financial cost of that permanent solution would be manageable if all seven Basin states in the U.S., along with the federal government, collaborate to subsidize it.

A collaborative effort among the Basin states is important for expeditiously accomplishing and permanently maintaining restoration of the Salton Sea in the only way that will decouple the lake's fate from the use of Colorado River water. Moreover, requiring financial contributions for that project by the seven Basin states in the U.S. would also be appropriate. All of these states benefited and continue to benefit from the 20th-century infrastructure that ensured the Colorado River would no longer flow into the Salton Basin as it did for millions of years. In addition, all of these states benefited and continue to benefit from the ongoing QSA water transfers, which shift a large portion of IID's Colorado River water allocation away from the Salton Basin to junior rights-holders in order to enable California overall to live within its 4.4 MAF allotment from the overused river. In other words, all of the Basin states in the U.S. and their component Colorado River stakeholders have benefited and continue to benefit from the desiccation of the Salton Sea, while the harmful public health, environmental, and economic consequences are exclusively burdening the Salton Sea region. The Salton Sea area has become a sacrifice zone. Fundamental principles of equity and justice therefore require that all Colorado River stakeholders share the burden of achieving a long-term solution to this severe problem.

Accordingly, I suggest that USBR and Interior should develop a mechanism requiring all water agencies in the seven U.S. states reliant on the Colorado River to pay an annual fee that will be applied to fund construction, operation, and maintenance of an ocean water importation project for permanent Salton Sea restoration. The fee paid by each agency should be based on the specific quantity of Colorado River water it

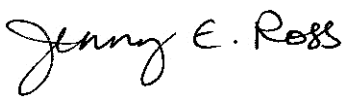
[5] The Mexican government has a 51% ownership interest in Exportadora del Sal S.A.

uses each year. In addition, the United States government and the State of California should also provide funding, and federal agencies should assist California in implementing the project. Because of the significant historical and ongoing inequities and injustices borne by the 30 Tribal Nations in the U.S. portion of the Basin, I suggest that they should not be required to contribute financially to accomplishing long-term restoration of the Salton Sea; however, there are other ways the Tribes can help address the Colorado River water crisis. Similarly, because of permanent harm to the Colorado River delta ecosystem caused by upstream water diversions and water infrastructure in the United States, I suggest that Mexico should not be obliged to make direct financial contributions. Rather, the assistance provided by the Mexican government should be to facilitate implementation of this necessary binational project.

It is long past time to execute a plan for full restoration of the ailing and shrinking Salton Sea that will permanently sustain the lake's ecosystem and the wildlife reliant on it, protect public health across the surrounding region, and avert the devastating consequences that are rapidly materializing as the lake's water supply diminishes. The approach I'm suggesting would attain all of those essential goals, and would also lay crucial groundwork for achieving sustainability of Colorado River water usage.

Thank you for considering these comments.[6]

Sincerely,



Jenny E. Ross, J.D.
Research Affiliate, Stout Research Center[7]

Attachments:

- **A.** Photographs of fugitive dust at the Salton Sea
- **B.** Examples of recent hazardous air quality alerts for Imperial County
- **C.** Photographs of some species reliant on the Salton Sea ecosystem and affected by the lake's crisis
- **D.** Photographs of some health-related and economic impacts of the Salton Sea crisis

[6] Please note that I do not have a personal stake in these issues, and I do not represent or speak for any interested individual, organization, or government entity. I submit these comments for your consideration as someone who has spent years objectively analyzing the many scientific, factual, legal, and policy issues that concern the past, present, and future of the Salton Sea and the Colorado River.

[7] As a Research Affiliate of the Stout Research Center, I study a variety of scientific issues related to the Salton Trough, the Colorado River system, and the past, present, and future of the Salton Sea, including Pliocene-to-Holocene geology, hydrology, climatology, paleontology, and ecology.

ATTACHMENT A

Photographs of Fugitive Dust at the Salton Sea

Attachment A – All Photographs ©Jenny E. Ross

Huge amounts of dust blow from desiccated lakebed at the Salton Sea's Red Hill Bay in 2015, rendering the air quality hazardous throughout the region. The wind was blowing from the west at approximately 20-25 miles per hour, a common occurrence in the Salton Basin. (Note the dead tree for scale.)

Hazardous particulates cloud the air in Calipatria, California as exposed areas of the receding Salton Sea's lakebed emit huge quantities of dust in 2015. The wind was blowing from the west at approximately 20-25 miles per hour, as it often does in the Salton Basin.

Attachment A – All Photographs ©Jenny E. Ross

The view across a portion of dry Red Hill Bay at the Salton Sea in November 2015, in the late afternoon on a clear day with little wind.

The same view across dry Red Hill Bay at the same time of day in April 2014 during a dust storm. Hazardous particulates fill the air, blown from the lakebed by 20-25 mph winds from the west. Although Red Hill Bay was completely dry here before the dust storm, the image shows a narrow strip of water between the geothermal plant and the foreground lakebed. The water was blown eastward across the nearly flat terrain more than a mile from the receding shore of the Salton Sea.

Attachment A – All Photographs ©Jenny E. Ross

The view across a portion of dry Red Hill Bay at the Salton Sea in November 2015, just before sunset on a clear day with no wind.

The same view across dry Red Hill Bay at the same time of day in April 2014 during a dust storm. Hazardous particulates fill the air, blown from the lakebed by 20-25 mph winds from the west-northwest.

ATTACHMENT B

Examples of Recent Hazardous Air Quality Alerts For Imperial County, California

Attachment B

Examples of Recent Hazardous Air Quality Alerts for Imperial County

Key for AQI Values (www.imperialvalleyair.org/popup_AQITable.cfm)

AQI Value		Air Quality
Green 0 to 50	Good	Air quality is considered satisfactory, and air pollution poses little or no risk.
Yellow 51 to 100	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people. For example, people who are unusually sensitive to ozone may experience respiratory symptoms.
Orange 101 to 150	Unhealthy for Sensitive Groups	Although general public is not likely to be affected at this AQI range, people with lung disease, older adults and children are at a greater risk from exposure to ozone, whereas persons with heart and lung disease, older adults and children are at greater risk from the presence of particles in the air.
Red 151 to 200	Unhealthy	Everyone may begin to experience some adverse health effects, and members of the sensitive groups may experience more serious effects.
Purple 201 to 300	Very Unhealthy	Pollution levels trigger a health alert signifying that everyone may experience more serious health effects.
Maroon **Above 300**	**Hazardous**	**Pollution levels trigger a health warning of emergency conditions.** The entire population is more likely to be affected.

Imperial Valley Air Quality Alert

Brawley - 220 Main Street

Sunday, May 8, 2022 - 12:00 AM
PM10 AQI reached 796 - Hazardous

PM10 AQI 201-300 People with respiratory or heart disease, the elderly, and children are the groups most at risk. Persons with cardiopulmonary disease and the elderly may experience significant aggravation of heart or lung disease and premature mortality. The general population may experience a significant increase in respiratory effects. U.S. EPA cautions that "people with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion." 'Prolonged' generally means four or more hours with short rest periods. 'Heavy exertion' is that which would increase the resting breathing rate four fold or greater. You can reduce exposure to particulate material by: - Reducing the intensity and duration of your outdoor activities - Postponing outdoor activities to days when particulate levels are lower

This notification was issued by the Imperial Valley Air Pollution Control District.
Visit http://www.imperialvalleyair.org for current readings, ozone movies, and additional air quality information.
For more information on how the AQI is calculated, visit Air Now.

Attachment B

Examples of Recent Hazardous Air Quality Alerts for Imperial County

Imperial Valley Air Quality Alert

Niland - English Road

Sunday, May 8, 2022 - 5:00 PM
PM10 AQI reached 874 - Hazardous

PM10 AQI 201-300 People with respiratory or heart disease, the elderly, and children are the groups most at risk. Persons with cardiopulmonary disease and the elderly may experience significant aggravation of heart or lung disease and premature mortality. The general population may experience a significant increase in respiratory effects. U.S. EPA cautions that "people with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion." 'Prolonged' generally means four or more hours with short rest periods. 'Heavy exertion' is that which would increase the resting breathing rate four fold or greater. You can reduce exposure to particulate material by: - Reducing the intensity and duration of your outdoor activities - Postponing outdoor activities to days when particulate levels are lower

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Imperial Valley Air Quality Alert

Westmorland - 570 Cook St

Friday, May 20, 2022 - 8:00 PM
PM10 AQI reached 1121 - Hazardous

PM10 AQI 201-300 People with respiratory or heart disease, the elderly, and children are the groups most at risk. Persons with cardiopulmonary disease and the elderly may experience significant aggravation of heart or lung disease and premature mortality. The general population may experience a significant increase in respiratory effects. U.S. EPA cautions that "people with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion." 'Prolonged' generally means four or more hours with short rest periods. 'Heavy exertion' is that which would increase the resting breathing rate four fold or greater. You can reduce exposure to particulate material by: - Reducing the intensity and duration of your outdoor activities - Postponing outdoor activities to days when particulate levels are lower

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For more information on how the AQI is calculated, visit Air Now.

Attachment B

Examples of Recent Hazardous Air Quality Alerts for Imperial County

Imperial Valley Air Quality Alert

Westmorland - 570 Cook St

Monday, February 21, 2022 - 10:00 PM
PM10 AQI reached 2606 - Hazardous

PM10 AQI 201-300 People with respiratory or heart disease, the elderly, and children are the groups most at risk. Persons with cardiopulmonary disease and the elderly may experience significant aggravation of heart or lung disease and premature mortality. The general population may experience a significant increase in respiratory effects. U.S. EPA cautions that "people with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion." 'Prolonged' generally means four or more hours with short rest periods. 'Heavy exertion' is that which would increase the resting breathing rate four fold or greater. You can reduce exposure to particulate material by: - Reducing the intensity and duration of your outdoor activities - Postponing outdoor activities to days when particulate levels are lower

This notification was issued by the Imperial Valley Air Pollution Control District.
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For more information on how the AQI is calculated, visit Air Now.

ATTACHMENT C

Photographs of Some Species Reliant on the Salton Sea Ecosystem and Affected by the Lake's Crisis

Attachment C – All Photographs ©Jenny E. Ross

California State Parks Ranger Steve Bier assists biologist Sharon Keeney of the California Department of Fish and Wildlife in conducting a survey of Salton Sea tilapia in 2006. The Salton Sea supported one of the most productive fisheries in the world, sustaining hundreds of millions of tilapia, until the lake's salinity rose to the point that it became physiologically intolerable even for these hardy fish. As a result of the lake's declining input of fresh water and skyrocketing salinity, tilapia now only survive in very small numbers near the mouths of tributaries where Colorado River wastewater enters the lake.

An adult male desert pupfish (*Cyprinodon macularius*), an endangered native species, in breeding color. The Salton Sea ecosystem is one of only a handful of locations where this species still exists. It is reliant on habitat in Salton Sea tributaries, shallow waters of the lake, and a few small springs in the region for its continued survival. Although this fish is extremely salt-tolerant, the increasing salinity of the Salton Sea will soon exceed its ability to adapt. When subpopulations of the species in tributaries and springs around the perimeter of the lake become cut off from one another as the Salton Sea recedes and its salinity rises, they will become genetically isolated and more vulnerable to extirpation.

Attachment C – All Photographs ©Jenny E. Ross

An American white pelican (*Pelecanus erythrorhynchos*) eats a tilapia it has just caught at sunrise in the Salton Sea. This photograph was taken in 2006. Until the recent collapse of the Salton Sea's fishery, the lake provided essential resting and feeding habitat throughout the winter for approximately 90 percent of western North America's white pelicans. But now the lake contains insufficient food to support these piscivorous birds.

A Caspian tern (*Hydroprogne caspia*) catches a fish near the edge of the Salton Sea in the Sonny Bono Salton Sea National Wildlife Refuge. In the past, several species of terns relied on the lake as an important resting and feeding location, and some bred there. Now the Salton Sea contains insufficient food to support these fish-eating birds, because the lake's fishery has collapsed as a result of rising salinity due to freshwater deprivation. This photograph was taken in 2012.

Attachment C – All Photographs ©Jenny E. Ross

After catching a large tilapia in the Salton Sea, a male great blue heron (*Ardea Herodias*) brings the fish to his mate who is in their nest incubating eggs. Because the base of this dead tree was submerged in shallow waters of the lake, its branches provided a nesting platform safe from predators. The Salton Sea previously supported very large numbers of breeding great blue herons, but that is no longer the case because of the lake's shrinkage and the collapse of its fishery. This photograph was taken in 2012.

Hundreds of California brown pelicans (*Pelecanus occidentalis californicus*) rest near the shore of the Salton Sea at the Sonny Bono Salton Sea National Wildlife Refuge in 2014. That year the birds' numbers declined precipitously at their breeding colonies in the Gulf of California, likely because El Niño conditions affected their food supply. This situation caused many of these birds to migrate north to the Salton Sea earlier than usual, where they relied on the lake's productive fishery and expansive habitat to feed and rest. Because of the subsequent collapse of the Salton Sea's fish population, the lake now contains insufficient food to support these piscivorous birds. The California brown pelican was removed from the U.S. endangered species list in 2009, but remains federally protected under the Migratory Bird Treaty Act.

Attachment C – All Photographs ©Jenny E. Ross

Double-crested cormorants (*Phalacrocorax auritus*) at a portion of their breeding colony on Mullet Island, the Salton Sea's only island, in March 2012 when the receding waters of the lake had not yet fully exposed a land bridge connecting the island with desiccated Morton Bay along the southeast shore of the Salton Sea. Until that land bridge was exposed, Mullet Island hosted the largest breeding colony of double-crested cormorants in California, and the second largest colony in North America. Exposure of the land bridge enabled predators to reach the former island, forcing the birds to abandon their colony.

Attachment C – All Photographs ©Jenny E. Ross

Mullet Island in 2016, devoid of birds. As the Salton Sea receded, exposure of a land bridge connecting the former island to desiccated Morton Bay enabled predators to reach the colony and forced the birds to abandon it. Since then they have been unable to establish a breeding colony anywhere else in the region. In addition, because of the subsequent collapse of the Salton Sea's fishery, the lake now contains insufficient food to support these fish-eating birds.

Attachment C – All Photographs ©Jenny E. Ross

Ruddy ducks (*Oxyura jamaicensis*), a male and a female, lie where they died at the receding shore of the Salton Sea in 2013, during a large outbreak of avian botulism. Birds crowd closer together in the remaining areas of viable habitat as the Salton Sea shrinks, and they become increasingly stressed physiologically as the lake's salinity rises and the quality of the resources they depend upon deteriorates. These factors cause many species that depend on the Salton Sea to be significantly more vulnerable to large and deadly outbreaks of disease.

ATTACHMENT D

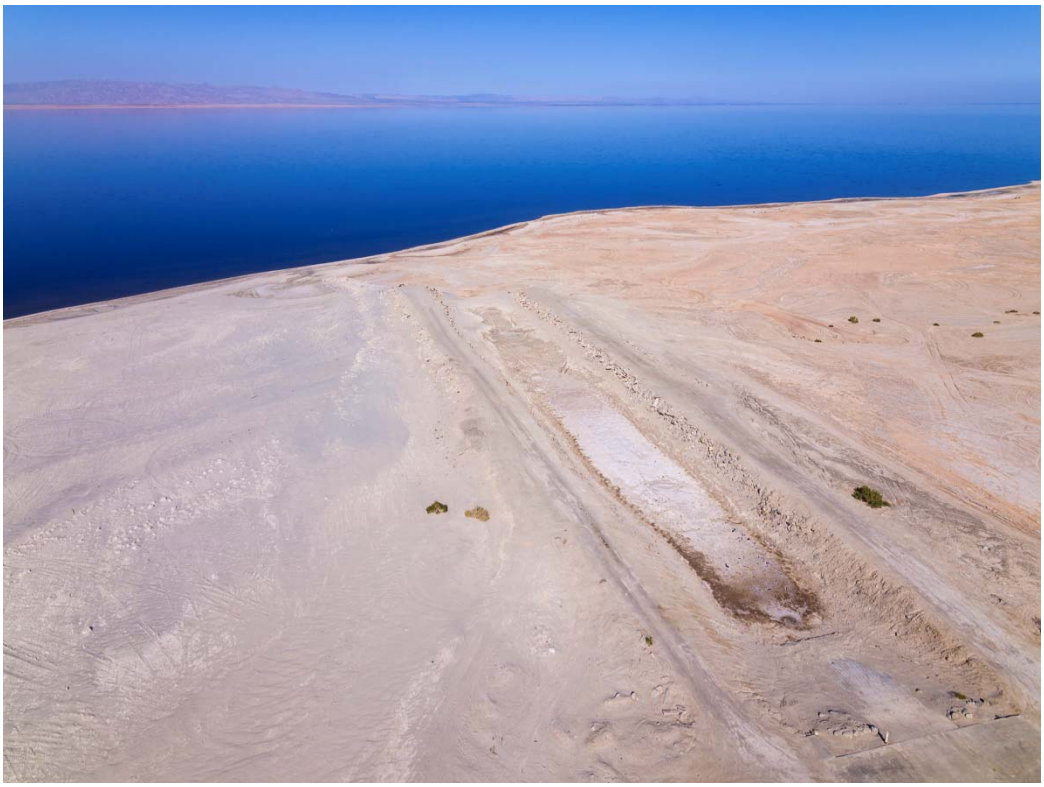
Photographs of Some Health-Related and Economic Impacts of the Salton Sea Crisis

Attachment D – All Photographs ©Jenny E. Ross

Aerial view of a portion of the Desert Shores community on the west shore of the Salton Sea in 2017. As the lake receded, "keys" that previously connected private docks with the lake became cut off from it. Stagnant hypersaline water in the keys became filled with algae and bacteria, emitting noxious odors and posing a public health hazard. Property values here and elsewhere adjacent to the Salton Sea have plummeted in recent years. Since this photograph was taken, the lake has receded much farther because of freshwater deprivation, and much larger areas of dust-emitting lakebed are exposed.

A house in Salton City near the west shore of the Salton Sea, located on previously desirable real estate next to a Salton City Yacht Club "key" that once connected private piers to the lake, now has a view of stagnant, noxious, hypersaline water filled with salt-loving bacteria that color the water blood red. Circular pits in the sand are abandoned tilapia nests, exposed as the Salton Sea receded. This photograph was taken in 2017.

Attachment D – All Photographs ©Jenny E. Ross



Aerial view of the stranded public boat launch at Johnson's Landing near Salton City on the west shore of the Salton Sea, photographed in 2017. Since then the lake has receded much farther as it has continued to shrink from freshwater deprivation. There are no functional boat ramps anywhere around the lake anymore.

Surrounded by gulls and grebes, a lone kayaker paddles on the Salton Sea at sunset in the Salton Sea State Recreation Area in January 2007. At that time the level of the lake had not yet declined significantly from the water transfers underway pursuant to the Quantification Settlement Agreement. If an ocean water importation plan to restore the Salton Sea is implemented in the future, the lake will once again become a recreational and wildlife-viewing mecca, as it was in the past.