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Dear U.S. Bureau of Reclamation,

On behalf of The EcoMedia Compass Board of Directors we respectfully submit the following comments for the Supplemental EIS of the 2007 Interim Guidelines.

Reduced downstream deliveries due to current and anticipated reservoir and hydrologic conditions in the Basin present significant and unacceptable risks to public and ecological health to the Salton Sea region. Department of Interior's past stance that Colorado River cuts do not impact the Sea is outdated and not shared by Salton Sea stakeholders, most notably, the Public. The Supplemental EIS must include a full assessment of all impacts to the Salton Sea Region.

It is undeniable that the Salton Sea and the Colorado River are historically connected, and they are most certainly intertwined in our present day. The Salton Sea depends on the Colorado River for its continued existence as a natural resource. Irrigation runoff from farms in Imperial Valley has kept the lake sustained for over a century. Since water transfers from agricultural regions to urban areas began in the 1980s, but most significantly the 2003 Quantification Settlement Agreement, the Salton Sea, its surrounding communities, ecosystem and wildlife are suffering devastating consequences of reduced inflows to the lake. Now water users are being asked to cut additional deliveries to farms and implement conservation efficiency and fallowing to generate enough storage to protect reservoir elevations.

While the direct results of significant water conservation efforts will have a beneficial outcome by protecting critical elevation levels in Lakes Powell and Mead, the indirect and cumulative repercussions to the Salton Sea region have not previously been considered for the operating guidelines and must be addressed and analyzed going forward. The anticipated environmental effects of further reduction of agricultural inflows to the Salton Sea are identified as impacting:

•Public health and safety
•Air quality
•Water quality and quantity
•Wildlife and vegetation, including endangered, threatened, and other special status species
•Wildlife movement corridors and migratory patterns
•Soils and lakebed
•Wetlands, and riparian areas
•Cultural and Archeological resources
•Visual resources and scenic values
•Recreation and tourism
•Economic losses and poverty of disenfranchised communities

The analysis of the Supplemental EIS must consider and analyze potential effects on the Salton Sea ecosystem that include:

•A swift, sharp drop in Salton Sea elevation levels. The lake could lose approximately another

10 vertical feet, exposing lakebed sediments and becoming a source of fugitive dust. Air quality in Coachella, Imperial and Mexicali Valleys is chronically impaired by multiple pollutants, especially particulate matter pollution (PM2.5 and PM10). Wind events and dust storms are a common occurrence in the Salton Sea region, causing high levels of PM10 to pollute the air. According to the International Journal of Environmental Research and Public Health, Imperial Valley has the highest rate of asthma-related emergency room visits for children in California; about double the state average. The elderly are also part of the vulnerable population affected by the poor air quality. The resulting rapid exposure of new acreage on the playa in 4 years is significantly more than the exposure rate from the Quantification Settlement Agreement. Land area estimates are broad and range from 6,000-17,000 acres, depending on the modeling methods used. The public health crisis will be exacerbated by lakebed exposure due to less water flowing into the Salton Sea.

•An accelerated increase in salinity to where only halophytic algae, bacteria and perhaps some aquatic invertebrates could survive. The federally endangered Desert Pupfish and dwindling population of Mozambique tilapia would be completely decimated in the lake. The loss of the fishery will have disastrous consequences for piscivorous (fish-eating) birds that rely on the Salton Sea. It is imperative to preserve the Pacific Flyway and protect the unique biodiversity of the Salton Sea ecosystem. Ensuring the piscivorous birds have a sustainable food source and deep water habitat must be a priority at the Salton Sea.

In order to prevent a worsening public health crisis, protect the underserved shoreline communities and revitalize the ecological values of the Salton Sea, the operating guidelines must incorporate an environmental water budget and benefits going forward. The Clean Water Act and Public Trust Doctrine are applicable to the Salton Sea. The Salton Sea is a public resource sustaining an ecosystem that is a major component of the Pacific Flyway, has supported recreational uses over decades and moderates temperature extremes that affect farming by reducing impacts of frost and extreme heat. Restoration and enhancement of wetlands at the Salton Sea reduces open playa, eliminating airborne dust. This provides a dual benefit to humans and wildlife. Protecting natural resources should be considered as an effective solution to address the intensifying repercussions on drought challenged regions.

The Ca. Fish and Game Code § 2940 calls for more than mitigation. It calls for true restoration of the Salton Sea ecosystem.

“In restoring the Salton Sea, it is the intent of the Legislature to DO all of the following:
(1) Protect and provide long-term conservation of fish and wildlife that are dependent on the Salton Sea ecosystem.

(2) Restore the long-term stable aquatic and shoreline habitat for fish and wildlife that depend on the Salton Sea.

3) Protect water quality.

(4) Maintain the Salton Sea as a vital link along the Pacific Flyway.

In addition, the Stipulated Water Order 2017-0134 calls for 14,900 acres of habitat and 14,900 acres of dust mitigation at the Salton Sea by 2028. The State of California, through its Salton Sea Management Program (SSMP), is attempting to mitigate the environmental disaster at the Salton Sea by implementing the 10 Year and Long Range Plan. However, the State is a great deal behind schedule in their dust abatement efforts. Furthermore, the effects of low-runoff from Imperial Valley farm drains will exacerbate the public health threat and ecological catastrophe.

The Salton Sea will be dramatically impacted by reduced irrigation flows to the Imperial Valley planned under recent agreements to conserve 250 KAFY for four years. Irrigation drainage from the farms in the Imperial Valley, plus some cross border flow from Mexico, supplies roughly 90% of the inflow to the Salton Sea. For every three acre feet of water conserved by fallowing in the Imperial Valley one acre foot of drain water that would have flowed to the Salton Sea will instead be cut from normal inflows. For water conserved by on farm efficiencies the ratio of inflow reduction to the Salton Sea is one to one. A four year conservation of 50 KAFY by on farm efficiencies plus 200 KAFY will accelerate the loss of elevation of the Salton Sea, already underway due to water transfers, by about five feet, see Chart 1 below.

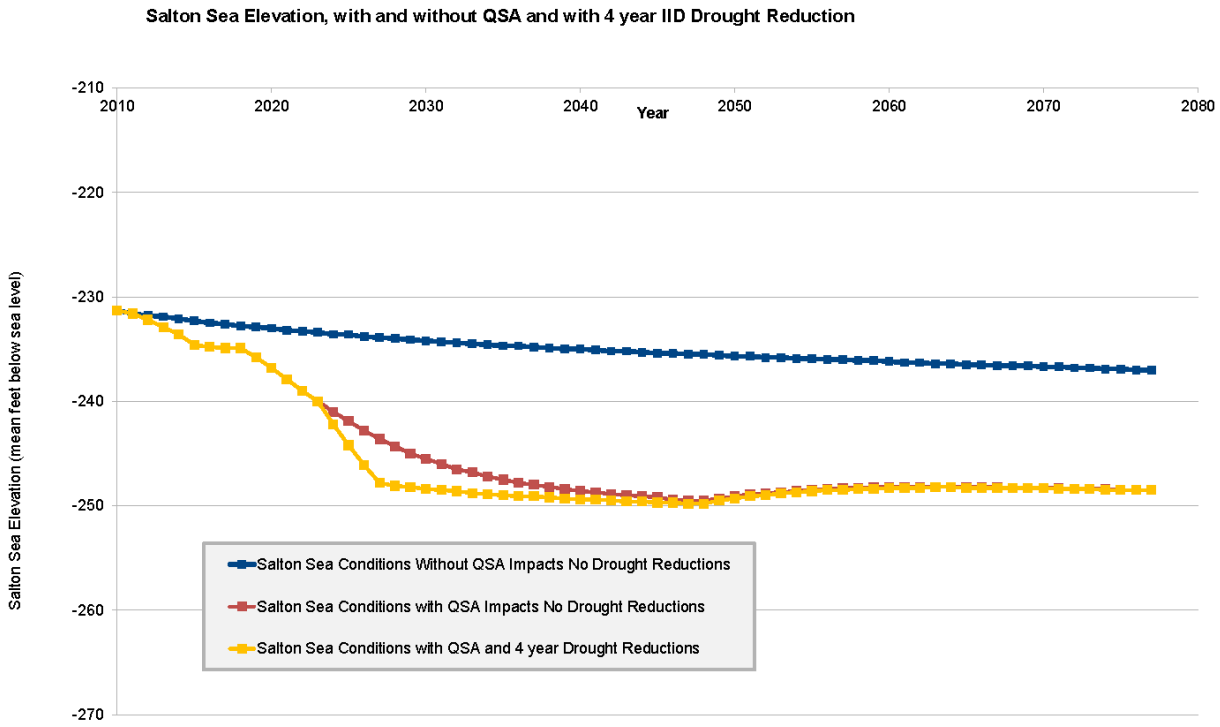


Chart 1. Four year 250 KAFY irrigation flow reduction impact on Salton Sea elevation

The accelerated loss of elevation will consequently accelerate the exposure of potential PM10 dust emitting lakebed at the Salton Sea by roughly 16,000 acres, see Chart 2 below, releasing more PM10 dust into nearby lakeshore communities sooner than will happen with QSA transfers alone.

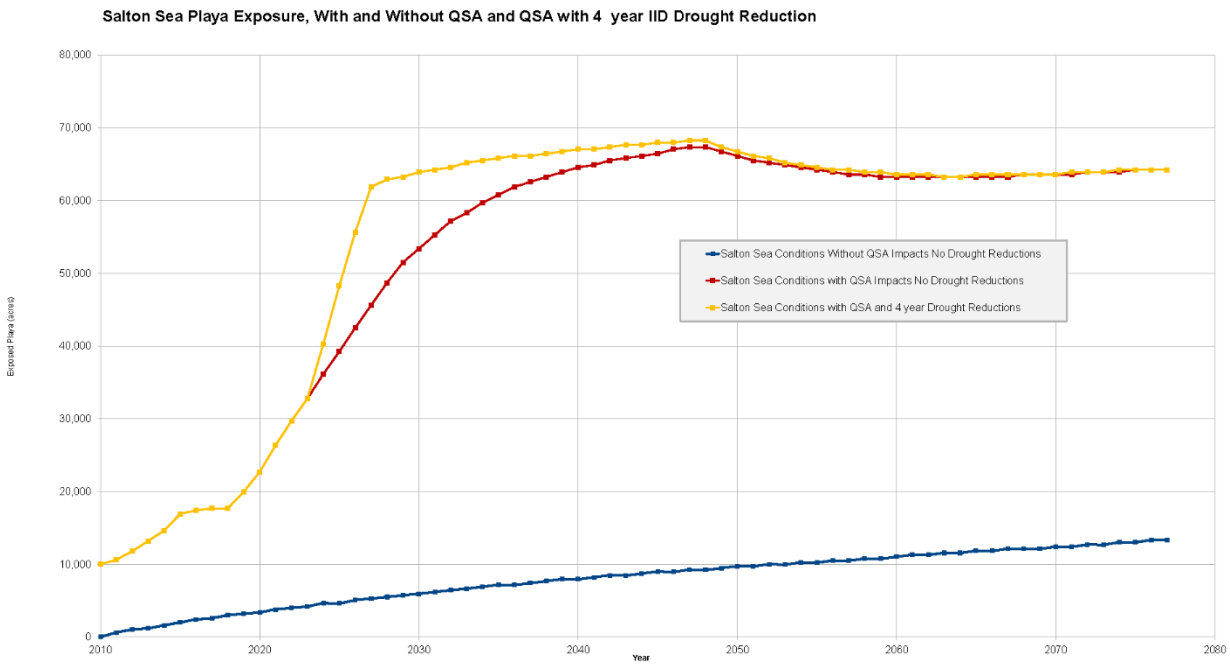


Chart 2. Four year 250 KAFY irrigation flow reduction impact on lakebed exposure at the Salton Sea

The other concern is salinity rise. The draining of excess salt from farms into the Salton Sea is necessary for local agriculture, but all salts are retained in the terminal lake. The shrinking of the volume concentrates the salts, which in turn is now killing off fish and other macroscopic life in the Salton Sea with rapid salinity rise. Reduced irrigation flows of 250 KAFY for four years will push salinity in the Salton Sea to complete aquatic ecosystem collapse within four years, see Chart 3 below.

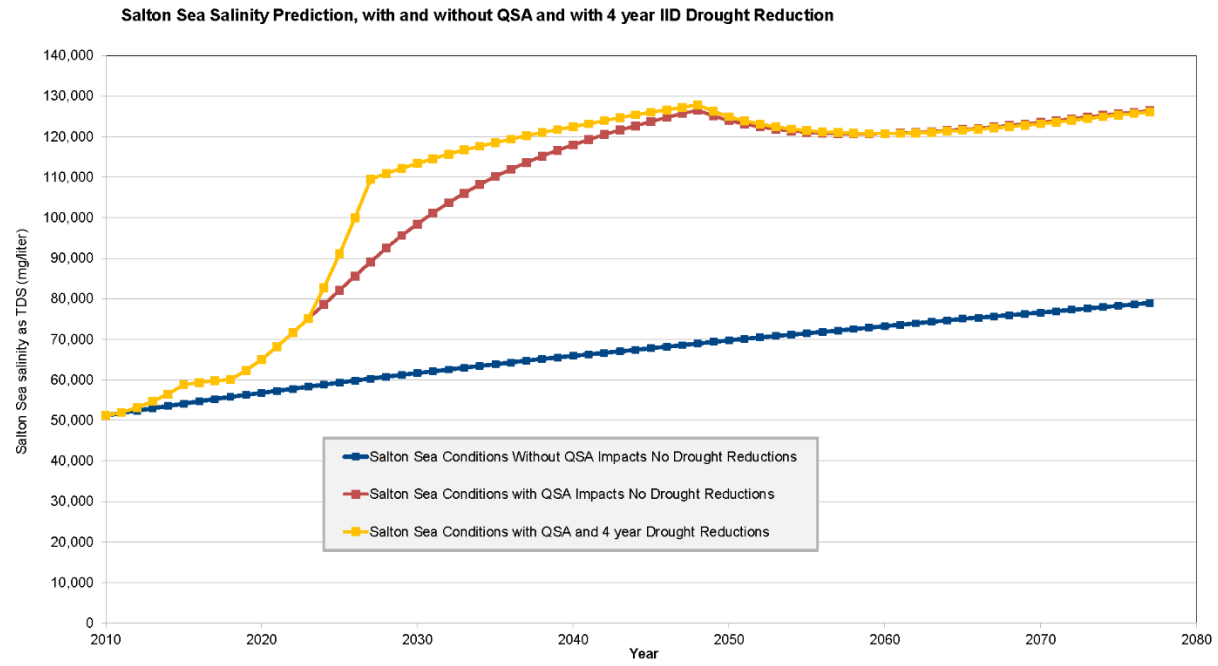


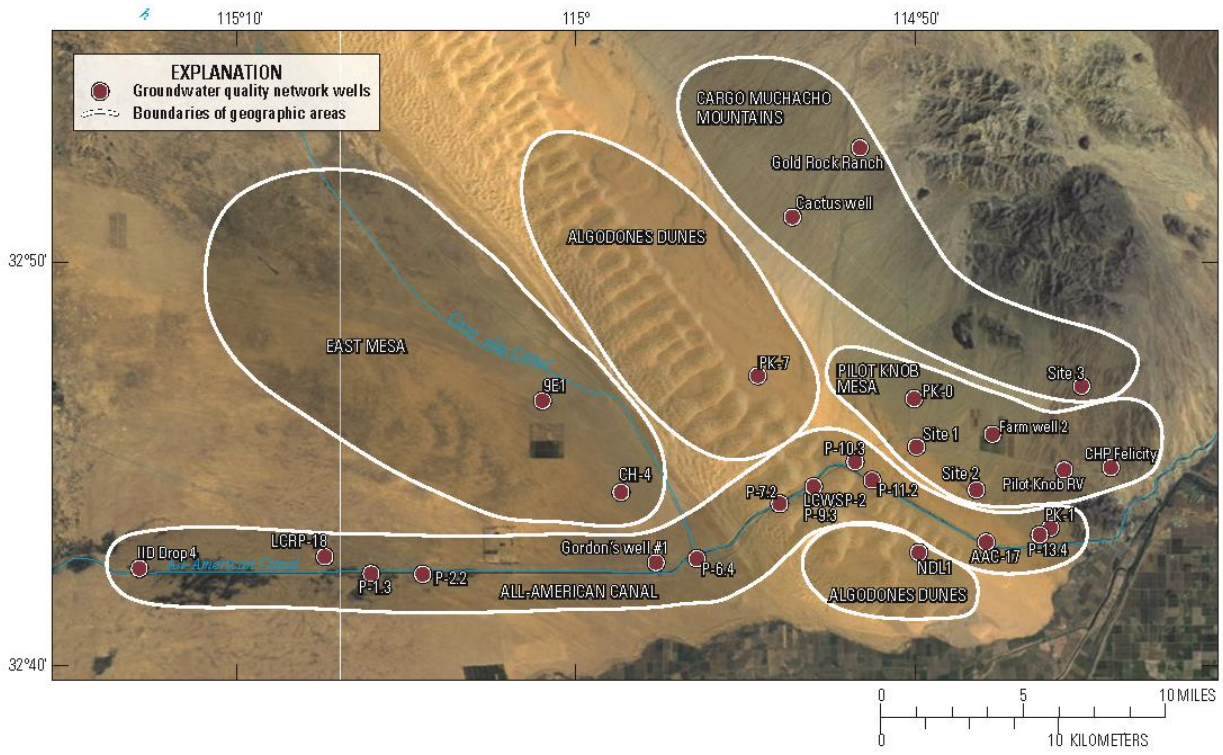
Chart 3. Four year 250 KAFY irrigation flow reduction impact on salinity at the Salton Sea

These impacts could be mitigated by a make-up inflow of groundwater up to 250,000 AFY in the short term. This is a proposed new water source for the Salton Sea. The groundwater would be recovered by wellfields on the southeast side of the Salton Sea accessing brackish groundwater available from the East Mesa area as far south as the All American Canal and north to Iris Wash. This groundwater is available under undeveloped desert areas east of the East Highline Canal and can be recovered from a few hundred feet depth or less and delivered to the Salton Sea through the unused unlined section of the Coachella Canal, the Iris Wash, and the Z Drain (see Map 1). Much of the conveyance infrastructure already exists in the old abandoned Coachella Canal and IID Z Drain. The conveyance route runs close to the above sea level groundwater resource area enabling gravity flow from the wells to the below sea level Salton Sea.

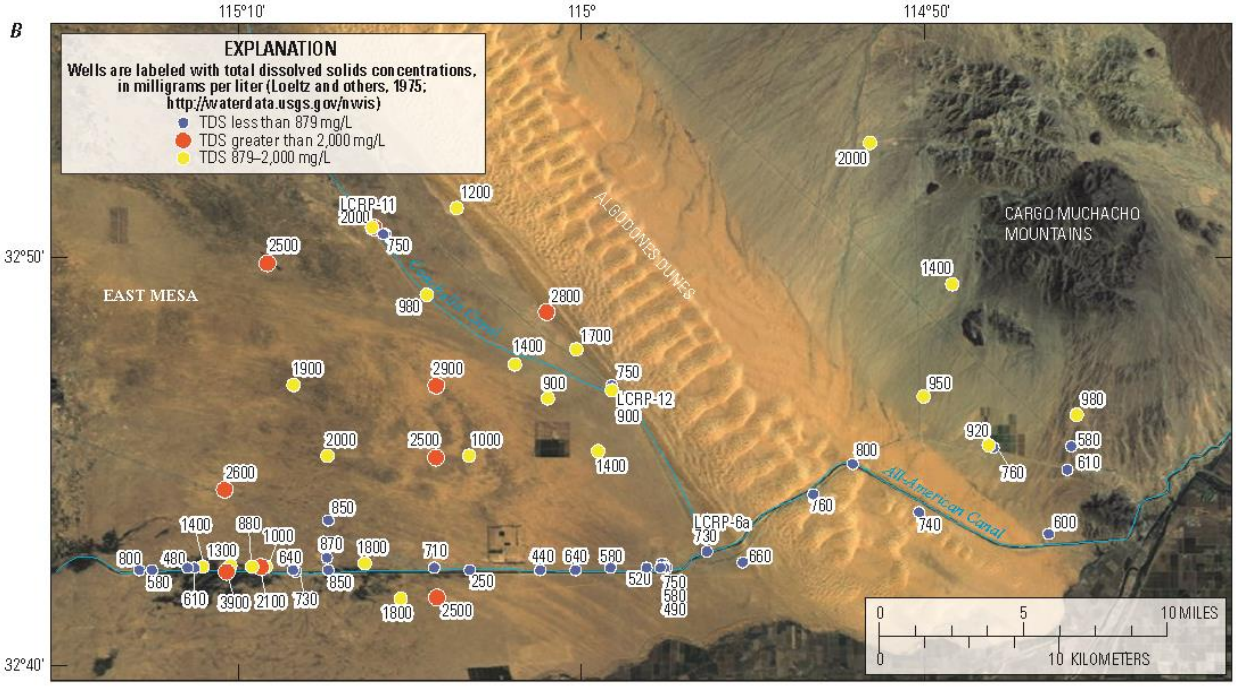
The East Mesa aquifer area is estimated to hold roughly one million acre feet of brackish groundwater [Reference 3]. Over fourteen million AF of brackish groundwater is in the Imperial Valley as a whole. Due to the predominantly brackish water quality, the Imperial Valley is defined by the State as a very low priority groundwater basin and thus exempt from State orders to limit groundwater extraction during the current drought.

There are several existing brackish wells in the East Mesa and nearby areas in the Eastern Imperial Valley that could start supplying water to the Salton Sea in a short time on approval (see Map 2 from Reference 4). These wells were used for groundwater monitoring studies and are mostly available for use. The water quality in these wells is brackish and sourced from Colorado River seepage and local rainfall with TDS similar to water in the IID drain system (see Map 3 from Reference 4) and far less saline than the Salton Sea. Several of these wells have substantial documented flow rate capacity although not enough to fully offset the impacts of a 250 KAFY reduction of irrigation water. Additional well fields can be developed in the area.

Map 1. Groundwater Conveyance Route from East Mesa in the Imperial Valley to the Salton Sea



Map 2. Existing Brackish Wells in East Mesa and nearby Locations in the Imperial Valley



Map 3. TDS of Existing Brackish Wells in the Eastern Imperial Valley

Wellfield Costs	
Direct Capital Costs (adjusted to 2013)	
Source Water Development (2013)	$33,682,406
Working Capital (2 months of O&M costs)	$426,812
Direct Capital Costs (adjusted to 2011)	$34,109,218
Indirect Capital Costs	
Freight and Insurance, 5% of direct capital cost	$1,705,460.92
Owner's direct expense, 10% of direct capital cost	$3,410,921.83
Construction Overhead, 15% of direct capital cost	$5,116,382.75
Interest During Construction (1/2 of period 6% rate)	$1,023,276.55
Indirect Capital Costs	$11,256,042.04
Capital Cost	$45,365,260
Annual O&M costs Wellfield (2013)	$2,548,103
Annual O&M costs Drain Delivery (2013)	$12,768
Financial Analysis - cost per acre foot	
Equivalent Annual Cost (4% bond financed)	$5,174,490
Product Water, acre – feet	25,000
Equivalent annual cost per acre foot	$207

Table 1.Groundwater Make-up well field development costs

Cost estimates for new wellfield development are shown in Table 1 based on cost estimates in the 2009 IID Draft Integrated Regional Water Management Plan Appendix N pg. 26 for similar brackish water wellfield development in the same region.

A long term 50,000 AFY extraction rate will be sustainable in the long term, if needed, based on the limits to recharge of the aquifer by IID underruns estimated from historical data and by using the abandoned unlined section of the Coachella Canal as a recharge basin when underruns are available.

The Imperial Irrigation District (IID) has long sought to be given the right to store water in Lake Mead when IID's use in a year is less than their allocation, an underrun. Under current law and practice, any IID water allocation that is not used within the year goes to the Metropolitan Water District of Southern California (MWD) at zero cost. However water use within a year that exceeds the IID allocation must be paid back in future years. This does not incentivize conservation at below allocation water use levels in the IID service area. Granting IID the right to future use of allocated water not used in a given year would incentivize conservation at lower use levels and would help build elevation in Lake Mead at this critical time and going forward. MWD would lose an occasional windfall, but would not lose its normal allocation of Colorado River water.

The reservoirs on the Colorado River system are a very significant locus of water loss due to evaporation. For example Lake Mead is estimated to have lost on the order of 500 KAF to evaporation in the year 2020 (Reference 1, Page 22). One way to reduce evaporation loss that has been effective on smaller reservoirs around

the world is to use floating covers on most or part of the water surface. Floating covers can reduce evaporation loss on reservoirs by 90% (Reference 2, Table 4). While Lake Mead, Lake Powell, Lake Havasu, etc. are extensively used for recreation, in a severe drought that threatens the operational integrity of the Colorado River system, there is good justification to reduce the area of recreational use to conserve water. For example, if recreational use of Lake Mead were limited to the most used 40% of the reservoir, and floating covers were employed on 60% of the surface area, then annual water savings would be on the order of 270 KAF, more than the 250 KAF annual reduction proposed for the Imperial Valley in California, without the substantial economic and environmental losses that would occur to the Imperial Valley and the Salton Sea. Based on Reference 2, Table 4, the cost would be ($0.30 / 1,000 L) / (0.0008107132 acre-feet / 1,000 L) = $370 per AF, which is within the price range being offered to farmers to fallow fields now.

In order to further protect the avian and aquatic wildlife, the Pacific Flyway and the beneficial uses of the Salton Sea, we also recommend other nature-based solutions, such as utilizing the shoreline lagoons that already exist at the State Park and North Shore Yacht Club. The ponds have a sustainable year-round inflow and outflow of fresh or brackish water. By revitalizing the ponds, it amplifies their habitat value by creating a more usable and improved aquatic resource for fish and fish-eating birds. The total acreage may be small but the impact on saving wildlife, boosting tourism, drought resiliency, equitable outdoor access, recreation and economic benefits would be significant. We also recommend importing water from the ocean to provide the most effective dust mitigation measure, and provide options for habitat and human uses.

The Salton Sea, its communities, wildlife and ecosystem have been overlooked, neglected and abandoned in its time of need for too long. The crisis on the Colorado River is an opportunity for Federal, State and Local governments to address their responsibility to care for the environment. When the environment is healthy, our communities can thrive.

Thank you for this opportunity to comment on the Supplemental EIS for the 2007 Interim Guidelines.

Sincerely,
The EcoMedia Compass Board of Directors

References

1. “Implementation Effects of New Evaporation Coefficients for Lake Mead and Lake Mohave”. U.S Bureau of Reclamation, Department of the Interior, February 2, 2022.

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3. Thompson Andrew, Demir Zafer, Moran Jean, Mason Denise, Wagoner Jeff, Kollet Stefan, Mansoor Kayyum, McKereghan Peter, 2008, “Groundwater Availability Within the Salton Sea Basin, Final Report”. Lawrence Livermore National Laboratory, LLNL-TR-400426.

4. Coes, A.L., Land, Michael, Densmore, J.N., Landrum, M.T., Beisner, K.R., Kennedy, J.R., Macy, J.P., and Tillman, F.D., 2015, “Initial characterization of the groundwater system near the Lower Colorado

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