



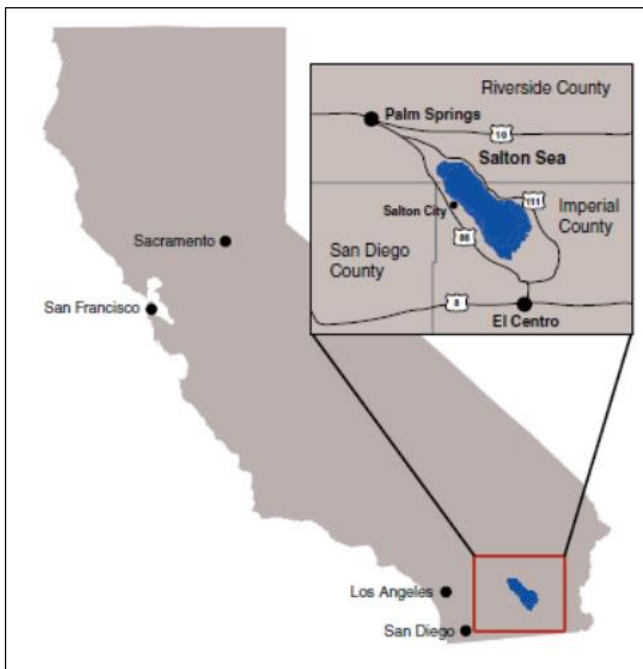
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Salton Sea Management and Restoration Efforts

The Salton Sea in Southern California is the state's largest inland body of water. The Salton Sea was created when a canal gate broke in 1905, allowing Colorado River water into the basin. It is now sustained by agricultural runoff from farmlands in the Imperial and Coachella Valleys. Though saltier than the ocean, it provides permanent and temporary habitat for many species of plants and animals, including several endangered species. It also serves as a recreational area for the region.

The Salton Sea has been altered by increasing salinity and decreasing size caused by steadily decreasing water flows into the sea (in part due to a reduction in Colorado River water used for irrigation). High salinity and shrinking lake area have been linked to habitat changes and stressed populations of plants and animals, economic losses in the region, and impaired air quality.

Figure 1. Map of Salton Sea and Vicinity



Source: California Legislative Analyst's Office, *The Salton Sea: A Status Update*, August 29, 2018.

State and federal agencies have studied how best to manage the Salton Sea in a sustainable manner, but major plans have yet to be implemented. Previous investigations have provided baseline data about the sea, and, in recent years, both the State of California (through the California Natural Resources Agency) and the Imperial Irrigation District (IID) have proposed comprehensive restoration/mitigation plans.

Recent drought response plans for the Colorado River are connected to the fate of the Salton Sea. IID, the largest water rights holder on the Colorado River, has refused to approve the drought plan for the Lower Colorado River Basin without assurances related to Salton Sea restoration.

In addition to the sea's connection to the Colorado River, congressional interest in the Salton Sea stems, in part, from concern that dust from exposed lake beds could lead to airborne pollution and that deteriorating conditions could affect species listed under the federal and state endangered species acts, as well as other species.

Background

Beginning in 1901, irrigation canals were dug to divert a portion of the Colorado River to irrigate agricultural fields in the Imperial Valley within the Salton Basin. In 1905, water broke through a canal headgate, causing an uncontrolled release of Colorado River water from the canal and forming the Salton Sea. Water flowed uninterrupted for nearly 18 months, filling the Salton Sea, before it could be redirected to the Gulf of California. The Salton Sea formed as a closed basin with no outlets, which is still its condition today. The sea consisted largely of fresh water at its creation; however, evaporation and dissolving soil minerals have steadily increased its salinity over time.

Subsequent development of the Colorado River by the federal government (including construction of Hoover Dam and the All-American Canal in 1928) allowed water from the Colorado River to be transferred to the Imperial Valley for irrigation. After flowing through agricultural lands, this water drained into the Salton Sea, thereby replacing water lost to evaporation. In the 1920s, President Coolidge issued public water and reserve orders for the withdrawal of lands related to the Salton Sea. Today, lands in and around the sea are managed by a patchwork of federal, state, and local owners.

Although the Salton Sea was a popular destination for sportfishing and tourism in the 1950s, a combination of factors led to a decline in recreation and development of the area in the 1960s. Over the last several decades, water levels in the Salton Sea have declined and salinity has increased. Salinity levels in the sea are approximately 50% greater than ocean water and are increasing. Few fish can survive in these waters. Some predict that all species of fish may disappear from the sea as early as 2023. The Salton Sea is also an important stop for birds on the Pacific Flyway, many of which rely on the fish and invertebrates in the sea for sustenance. Finally, declining lake levels also expose lake beds (or playa) on the shores of the Salton Sea. The lake beds are covered with fine sediments, some of which contain toxic substances such as selenium and

arsenic deposited in part by agricultural runoff. When the exposed lake beds dry, winds can blow up the dust and transport it. This particulate air pollution is found to pose health risks to humans and animals in nearby areas.

Inflow Reductions Under the Quantification Settlement Agreement

Historically, the Salton Sea received about 1.4 million acre-feet per year (AFY) of the 3.3 million AFY in Colorado River water diverted to the Imperial and Coachella Valleys. The Quantification Settlement Agreement (QSA), a 2003 agreement to reduce California's use of the Colorado River, redirected 300,000 AFY of these flows to urban users in Southern California. These reductions were mitigated in part by 200,000 AFY of water transfers from IID to the Salton Sea. These mitigation flows expired in 2018. Additionally, pursuant to the QSA, the State of California assumed responsibility for restoration of the Salton Sea.

Recent Restoration and Mitigation Plans

Several federal, state, and private entities have developed proposals to restore the Salton Sea, with the objective of controlling salinity, maintaining habitat, and stabilizing water levels. The State of California in 2015 formed the Salton Sea Task Force, which in 2018 released the Salton Sea Management Plan (SSMP). The SSMP is a multiphase restoration plan; phase 1 is expected to last 10 years and includes projects and activities that aim to convey water to the lake, reduce salinity, and cover/restore approximately 30,000 acres of exposed lake bed.

As of 2018, the estimated cost for Phase 1 of the SSMP was \$383.0 million. Available funding anticipated for the plan is approximately \$80.5 million from a California state water bond passed in 2014 (Proposition 1). Other funding sources, including both other state sources and \$7.5 million in U.S. Department of Agriculture (USDA) Regional Conservation Partnership Program funding, also have been secured for the SSMP. Additional funding is being pursued, including significant funding from USDA's Environmental Quality and Incentives Program (EQIP), which was recently amended to allow a state, irrigation district, or groundwater management district to receive funding for projects.

The first major SSMP project is expected to be a large-scale restoration project in the southern end of the Salton Sea. This project, named the Species Habitat Conservation Project, aims to suppress toxic dust by creating approximately 3,770 acres of habitat for waterfowl. The habitat aims to keep the toxic substances from becoming airborne. Another ongoing project that is included in the SSMP is the Red Hill Bay Restoration Project, which is being carried out with the U.S. Fish and Wildlife Service.

Relationship to Colorado River Drought Contingency Plans

As a result of ongoing drought conditions in the western United States and the potential for water supply shortages, the Bureau of Reclamation (which manages Colorado River waters) and the Colorado River Basin states have recently been engaged in negotiations on potential additional reductions of Colorado River water deliveries (i.e., cutbacks beyond the QSA). In October 2018, the Bureau of

Reclamation and the basin states announced final drafts of drought contingency plans (DCPs) for the Upper and Lower Colorado River Basins. The DCPs include interstate allocations and commitments to water delivery curtailments. However, intrastate commitments (i.e., agreements that make it possible to realize state-level commitments in the DCPs) also must be finalized to implement the DCPs. Implementation of federal actions envisioned under the DCPs would require authorization by Congress.

To date, most states and users have approved the DCPs, but IID made its approval contingent on three requirements:

1. All seven Colorado River Basin states must have approved the interstate DCP documents as IID approved them;
2. IID must vote on and approve any proposed federal legislation submitted to Congress in conjunction with the DCP; and
3. The State of California and the federal government must commit to sufficient funding for the full completion of the 10-year SSMP at 1:1 federal-to-state funding, in addition to mitigating any and all future considerations as a result of all the DCP agreements.

The requirements have delayed final approval of the DCPs and have raised the prospect that the Department of the Interior may unilaterally curtail Colorado River water use in a manner it deems appropriate. For its part, IID has requested that \$200 million in federal funding be made available by USDA under P.L. 115-334 (the 2018 farm bill). This funding would be provided for the SSMP.

Issues for Congress

The current situation with the Salton Sea raises several issues for Congress. The fundamental question is what role (if any) the federal government should play in the SSMP and restoration of the sea. Some argue that this role should be minimal, since the state assumed lead responsibility for restoration under the 2003 QSA. Others contend that the prominent federal role in managing lands and waters in and around the Salton Sea, and the leading federal role in the push for water cutbacks on the Colorado River, means that the federal government should play a strong role in restoring the ecosystem and reducing the airborne pollution of the sea.

If the federal government is involved, Congress might consider avenues and authorities for federal funding of restoration. These might entail creating a new ecosystem restoration authority for the Salton Sea or funding existing authorities that allow for restoration (e.g., the EQIP program). Another potential issue for Congress is the extent and timing of work to restore the Salton Sea. As the sea shrinks, the potential for negative effects on wildlife populations and increased airborne pollution will increase.

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