

The Salton Sea Story...so far

Some History:

The Salton Sea straddles Imperial and Riverside Counties, and sits at the intersection of the Mojave and Sonoran deserts, in a basin 277 feet below sea level, known as the Salton Sink. Historically, the Colorado River would periodically change course and flow into the Salton Sink, creating ancient Lake Cahuilla. When sediments from the Grand Canyon and the Colorado Plateau would change the course of the river, the lake would be cut off and a cycle of drying would take place. These cycles of drying and filling have occurred into modern times. Between 1824 and 1904 the Salton Basin was flooded by the Colorado River at least eight times.

In 1905, due to poor engineering and higher than normal flows, the Colorado River broke through an irrigation channel and flowed unchecked into the Salton Basin for a year and a half, creating our present day Salton Sea. Today the Salton Sea is 360 square miles; 35 miles long, 15 miles wide and approximately 51 ft deep. (In 1907 the Salton Sea was 30 feet higher and covered 400 square miles).

Today, very little Colorado River water ever reaches the Gulf of California. Much of it is ultimately vented into the Salton Sea as agricultural runoff and urban wastewater. These days, this is a precious resource for migratory birds. As you well know, in the 1800's California had 5 million acres of wetlands. In the year 2000 California had about 450,000 acres of wetlands left – so birds using the Pacific, Central and Atlantic flyways, all use the Salton Sea as a stopover spot. This translates into literally MILLIONS of birds using the Sea and surrounding agricultural lands, some traveling from as far north as Russia and as far south as Peru. The Sea hosts HUNDREDS OF THOUSANDS of shorebirds (44 different species) during their winter migration.

Water, Water, Water:

In September of 2003 an agreement known as the Quantification Settlement Agreement, (QSA), was agreed to by the state of California, four water agencies and a number of environmental groups. This agreement implements the Colorado River Plan, which requires California to substantially reduce its use of Colorado River water and provided for the transfer of 200,000 acre-feet of water, per year, from the Imperial Irrigation District (which holds the rights to approximately 70% of California's Colorado River water allocation), to the San Diego County Water Authority for urban users in San Diego, and as much as an additional 100,000 acre-feet of water, per year, to the Coachella Valley. This means that water flowing into the Salton Sea will be reduced by that same amount, hastening the decline of the Sea.

Three legislative bills were passed to codify the QSA. The first, SB277, created a Salton Sea Restoration Act, which states that restoration should be based on a preferred alternative to be developed by a restoration study. It also states that

this preferred alternative shall provide the **maximum feasible attainment** of the following objectives:

- Restoration of long-term stable aquatic and shoreline habitat for the historic level of diversity of fish and wildlife that depend on the Salton Sea.
- Elimination of air quality impacts from the restoration projects.
- Protection of water quality.

The second bill, SB317, set out the restoration process, and the third bill, SB654, authorized the use of up to \$50 million from Proposition 50 for restoration planning and feasibility studies. It also requires that reductions in California's use of Colorado River water be consistent with the State's commitment to restore the Salton Sea. It finds that restoration is in the state and national interest, and recognizes the national and international significance of the wildlife values of the Salton Sea. It also provides authority to waive the Fully Protected Species Act and it allocates the environmental mitigation costs of the water transfer among the various parties and the state.

Why Try?

What if we don't try to restore the Salton Sea? A report put out by the Pacific Institute, entitled, "Hazard: The Future of the Salton Sea With No Restoration Project" (available free at <http://www.pacinst.org/reports/saltonsea/index.htm>) gives these key findings:

- By 2018, the surface elevation of the Salton Sea will drop about five feet, to roughly -233.6', reducing its volume by 16% and increasing salinity by a third. The shrinking Sea will expose some 26 square miles of lakebed, which could increase dust emissions by 17 tons/day.
- Water quality will continue to be poor through 2018. The combination of rising salinity, low oxygen concentrations, infestation by parasites, hydrogen sulfide-generated fish kills, and a declining prey base will likely eliminate most fish in the Sea by 2018.
- The Sea currently attracts tremendous numbers of birds - 407 species have been identified in the region. The shrinking Sea will degrade birds' roosting and breeding habitats, connecting islands to the shore and exposing those snags still standing. Macro-invertebrate populations will continue to decline, decreasing food resources for grebes, some ducks, and many shorebirds.
- The 10-12 years after 2017 will witness dramatic changes at the Sea: its elevation will fall by 20 feet, its salinity will triple, and its current fauna will be replaced by tremendous numbers of brine flies and brine shrimp. As the Sea's volume decreases by as much as 70% and its waters mix more frequently, concentrations of selenium and other contaminants will rise sharply. Bird disease and selenium toxicity will rise, though the tremendous brine fly/shrimp food base will attract large numbers of several species of birds.
- By about 2031, more than 130 square miles of lakebed will be exposed, which could generate an additional 86 tons of PM10 a day on

- average - a third higher than current emissions in the basin.
- Within about 55 years, rising salinity will largely limit the Sea's biota to green algae and cyanobacteria, a richly productive primordial soup, of limited value to people or birds.
- The report clearly indicates that failing to implement a restoration plan will carry exorbitant costs, in terms of human health, ecological health, and depressed economic development.

Where are we now?

The state evaluated eight alternative restoration plans and has now released its draft preferred alternative, which is essentially a hybrid of several of the alternatives. Estimated cost for this is \$7 billion, (the new cost estimate is in 'phasing information', posted at <http://www.saltonseawater.ca.gov/>, and it contains the following elements:

- The Saline Habitat Complex will be a total of 62,000 acres (this is essentially the shallow water habitat the birds need).
- A Marine Sea of 34,000 acres, to be formed by 2022 and have a salinity of less than 40,000 mg/L by 2023. (This would be a deep lake for recreational use, larger than Lake Havasu, which is 21,000 acres and smaller than Mono Lake, which is 41,600 acres)
- Exposed Playa of 109,000 acres. (This is the area that will dry up and require dust control to maintain healthy air quality).
- A Brine Sink of 29,000 acres, with salinity of less than 200,000 mg/L until 2027. (This is where the excess salt will go).

Where do we want to go?

Audubon California is concerned that the State and Federal Government will not have \$7 billion to spend on restoration, nor should they. Public funding should go first and foremost to pay for habitat restoration, air quality and water quality mitigation. Since the remainder of the cost – for the large northern lake – is primarily for recreation and local economic development, we feel private and local entities should pay those costs. We are, therefore, working to have the implementing legislation, SB 187 (Ducheny) written to include the following provisions:

- the final preferred alternative will be designed and constructed in phases to ensure that the shallow saline habitat complex and air quality mitigation measures are built and implemented first;
- the final preferred alternative ensures that funding and water are used first to satisfy habitat and air quality needs;
- the project level EIR is developed in an open and public manner similar to the process used to develop the programmatic level EIR; and
- construction of a marine lake (or lakes) is subject to these additional conditions:
 - 90 percent of its cost is borne by local entities, either public or private or some combination of the two;

- the source and transport of construction materials comply with all requirements of state and federal wildlife and environmental protection laws;
- all land transfers required to construct shallow saline habitat complex have been completed prior to commencement of construction of the marine lake(s);
- sufficient water is allocated for wildlife and air quality needs and the size of the marine lake(s) will not encroach on the water needs for wildlife and air quality;
- a marine lake at the northern end of the Sea is supplied by the Whitewater River without additional pumping from the New and Alamo Rivers; and air quality impacts from construction do not exceed state and federal requirements.

Once this legislation is finalized we will again call on our membership to contact their representatives to ensure the passage of this essential bill on behalf of the birds and other wildlife we love so much. If you would like to add your voice to our Salton Sea “Audubon Chorus” please contact Kathie Satterfield at advocate@audubonsaltonsea.org