

FACT SHEET: Salton Sea

The 35-mile-long Salton Sea is located in the lowest portion of a desert valley in Imperial and Riverside Counties. For the past several decades, the concerns about increasing elevations at the Salton Sea have been linked to increased agricultural runoff, above-average rainfall from 1976 through 1983, and increasing wastewater flows from Mexico. The volume of water has damaged some agricultural, recreational and residential properties along the Sea's shores. The salinity of water is becoming a problem and has recently gained the attention of local, state and federal officials, especially with an increasing emphasis on water conservation.

Background

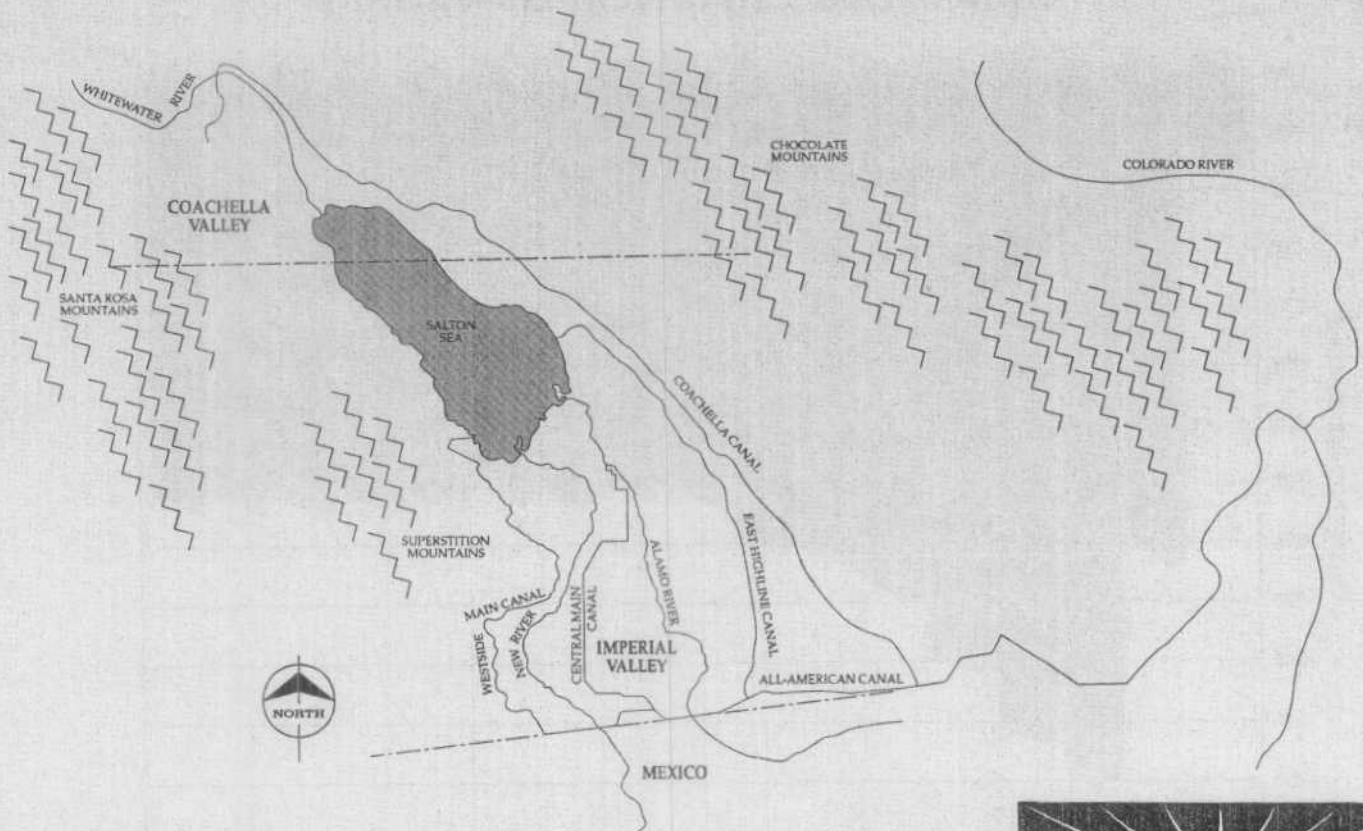
The history of Imperial Valley reveals that the Salton Sink, which is largely below sea level, was once the bottom of a prehistoric sea. The Gulf of California originally extended north into what is now the Imperial and Coachella valleys.

Evidence of marine life and shells high on the sides of the local mountains indicates that the entire region experienced a tremendous upthrust which was the birth of the mountain ranges.

Gradually, vast quantities of silt deposited by the Colorado River formed a delta that closed off the northern arm of the basin from the Gulf.

Periodically, the Colorado overflowed its natural levees, and filled the valley between the mountain ranges to form a vast lake (about 30 feet above sea level). Traces of the lake, named Lake Cahuilla after an ancient tribe of Indians who

Continued on page 4



Elevation

Currently, the water surface elevation of Salton Sea is -227 feet below sea level.

After the Colorado ceased flowing into the Salton Sea in 1907, evaporation greatly exceeded inflow and the water level rapidly declined until 1924. Increased development of irrigation, improvement of agricultural drainage systems and several major rain storms caused inflow to exceed evaporation, which had resulted in a gradual and continual annual rise in the Sea until 1980. After that the elevation stabilized somewhat, due largely to IID's water conservation programs.

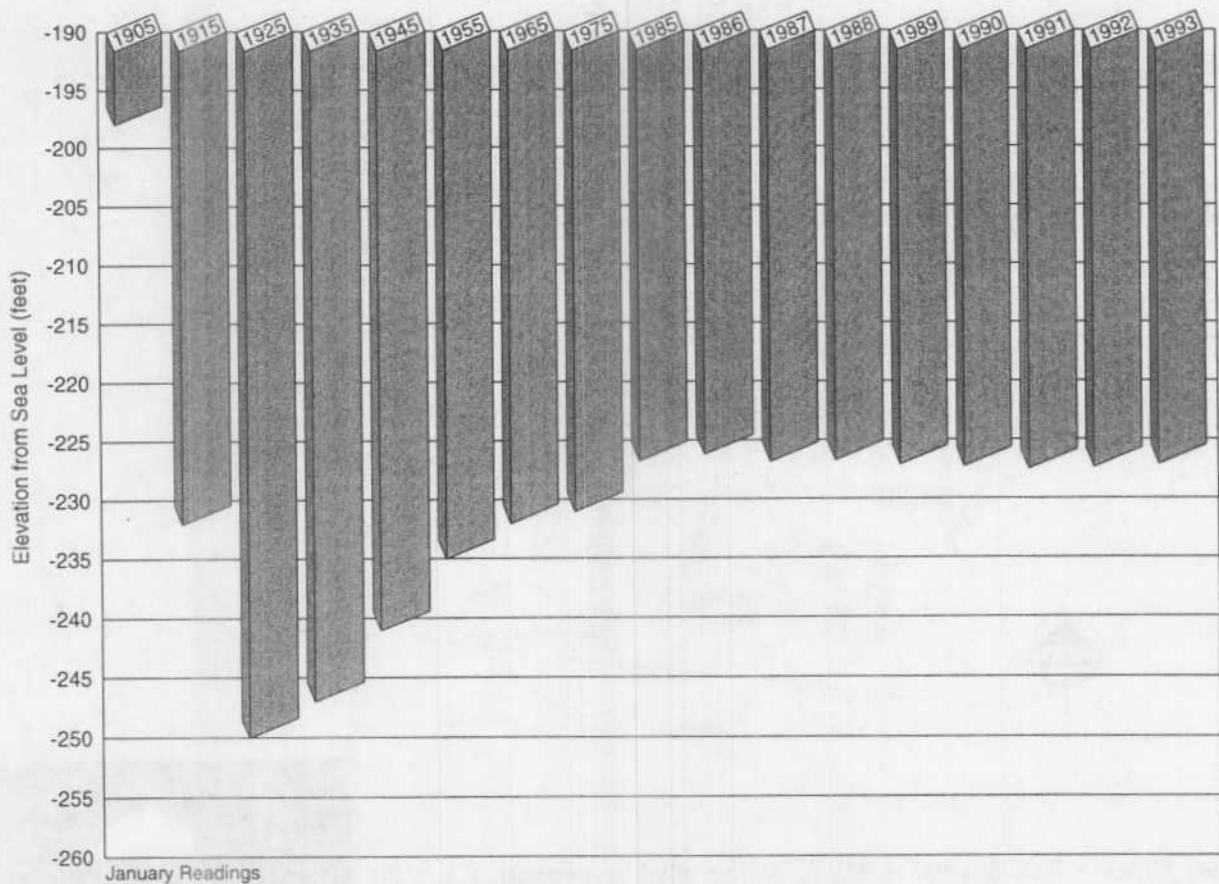
In 1907, when the Sea reached its highest level in this century, it covered more than 300,000 acres and contained approximately 15 million acre-feet of water. Today, the surface covers about 245,000 acres with about 7.3 million acre-feet of water.

Water Conservation

It was the rising level of the Salton Sea that focused public attention on water use practices in Imperial Irrigation District. Although the IID began water conservation programs initially in the mid 50s, the effects of these water conservation programs were not readily recognized as stabilizing the level of the Salton Sea until 1980. Despite savings of more than 100,000 acre-feet annually with these early conservation programs, state and federal agencies and several court decisions prompted a more aggressive plan to conserve water and lower the elevation of the Salton Sea.

In 1989 the IID and Metropolitan Water District of Los Angeles signed a conservation agreement that could lower the Salton Sea by six feet over 35 years.

Salton Sea Historical Elevations



Pollution

The Sea is also impacted by the effects of pollution flowing in through the New River. As an open conduit for untreated sewage, heavy metals contamination and pesticide residue from Northern Mexico, the New River is a major and difficult to control problem which affects the Salton Sea.

Selenium

Selenium, the element blamed for waterfowl deformities at the Kesterson Reservoir in Merced County, California, has been detected in Salton Sea fish in concentrations that sometimes exceed state advisory levels. However, toxic effects of selenium — abnormalities in wildlife — have not been detected at the Sea.

High levels of selenium have been found in agricultural drain water and in the sediments at the bottom of the Sea, although water in the Sea

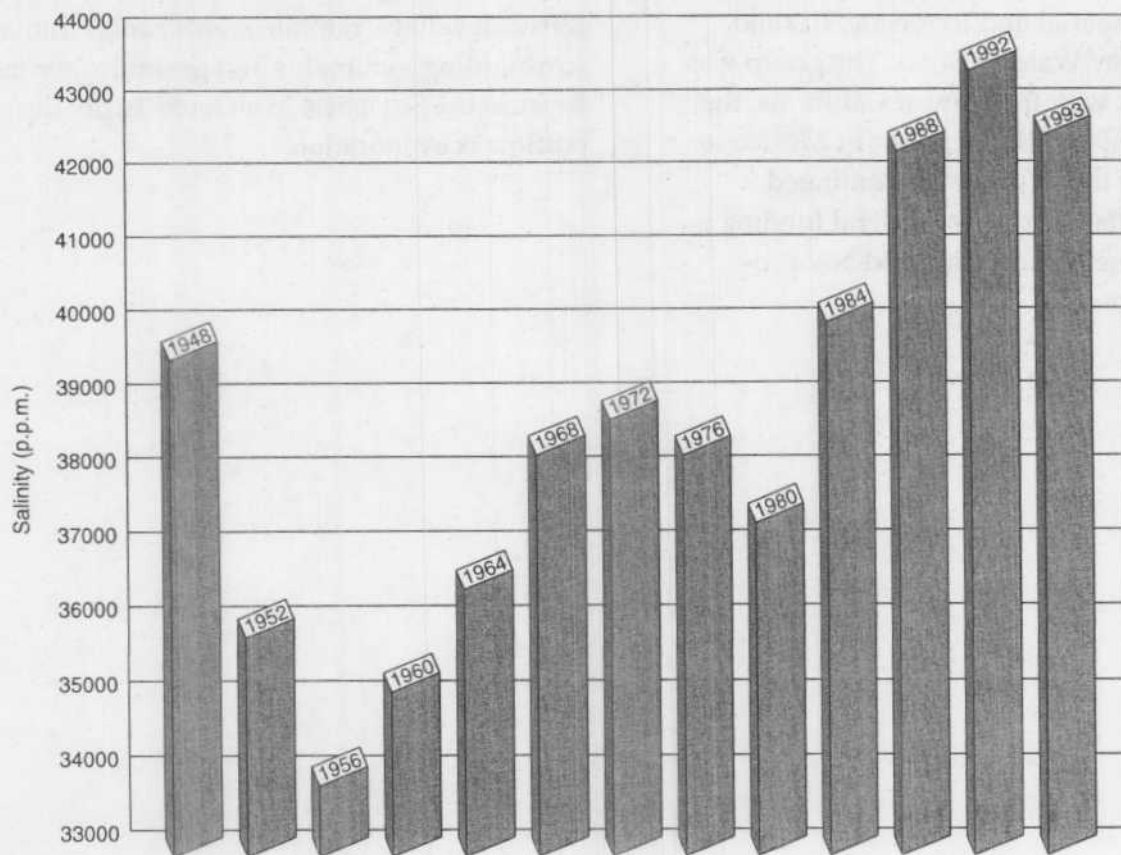
itself has normal levels of this trace element. Studies on the sources and impacts of selenium at the Salton Sea are continuing to be a focus of state and federal agencies.

Salinity

The salinity level of the Salton Sea is about 43,000 parts per million (ppm), which exceeds the salinity of ocean water (about 35,000 ppm).

The Salton Sea's sport fishing industry is threatened by rising salinity levels. Because the Sea is a terminal sea, all the salts which drain from the surrounding agricultural lands of the lower Colorado River and Mexico are deposited there. The high evaporation rate of the desert climate removes water from the Sea each year, but leaves the salt behind to become more and more concentrated. Therefore, any reduction in the water flowing to the Sea causes a rise in the salinity of the water in the Sea.

Salton Sea Historical Salinity



Stabilizing the Sea

In 1986, the Imperial Irrigation District joined a group of 20 interested agencies to form the Salton Sea Task Force, with the goal of finding a workable plan to stabilize the elevation and salinity of the Salton Sea. The Task Force was organized under the California Resources Agency at the direction of the Governor of California.

The statewide group studied solar pond technology, pump-out facilities and diked impoundments, among other options, along with possible funding sources.

The Imperial Irrigation District, together with the County of Imperial and a private company, Ormat Engineering, jointly funded a preliminary study in 1988 and found that using pump-out/evaporation/solar pond technology to control elevation and salinity may be feasible, but costly.

The District is working with the U.S. Fish & Wildlife Service to develop marsh lands for water quality improvement and to provide habitat for endangered species along the Salton Sea.

In 1993, the Salton Sea Authority was formed under a Joint Powers Agreement between the Counties of Imperial and Riverside, IID and the Coachella Valley Water District. The group was organized to work with the State of California, the federal government and the Republic of Mexico to develop programs that will ensure continued beneficial uses of the Salton Sea. Federal funding is being sought for the organization and any programs it implements.

Background, continued

inhabited the shoreline, can still be seen along the mountains to the west of the northerly end of Salton Sea and in the sand dunes toward Glamis.

The sink was dry when construction of the Imperial Canal was completed by the California Development Company in 1901. The Canal diverted water for irrigation from the Colorado River just upstream of the Mexican Border. After about four years, silt deposits led to an attempt to relocate the diversion a short distance downstream from the border in Mexico.

Unusual winter floods breached the diversion structure in 1905. For 15 months the entire flow of the Colorado River poured through Mexicali and Imperial valleys into the Salton Sink, threatening destruction of farming and the homesteads of several thousand families.

After arduous and expensive work, the river break was finally closed in the spring of 1907. The reestablished lake was named Salton Sea.

Since the initial flood of Colorado River water, the Salton Sea has been sustained by agricultural drainage from the Imperial, Coachella and Mexicali valleys, rainfall, storm runoff from the surrounding mountains and groundwater inflow. Because the Sea exists in a closed basin, the only outflow is evaporation.

—1994

