

Salton Sea History

The Salton Sea was formed in 1905 when Colorado River flood flows breached an irrigation diversion structure and temporarily flowed into the then-dry Salton Sink. The present sea is only the latest in a succession of waterbodies occupying the Salton Sink. The sink was once part of the Gulf of California in the distant geologic past. As the Colorado River and its tributaries carved out the Grand Canyon and incised channels in the upper river basin, enormous quantities of sediment were carried downstream to the river's mouth. These sediments eventually created a drainage divide, located near present-day Yuma, Arizona that cut off the Salton Sink from the gulf.

The Colorado River periodically alternated its flow between the sink and the gulf following creation of the drainage divide. As the river channel meandered across a broad expanse of deltaic sediment deposits, high flow events sometimes overtopped the sediments and established new distributaries toward the north. The prehistoric waterbody known as Lake Cahuilla was created when these distributaries flowed into the Salton Sink. The lake, which at its greatest extent stretched from Mexico into the Coachella Valley, eventually evaporated when Colorado River flows returned to the gulf. Lake Cahuilla filled the Salton Sink on several occasions, with a major highstand occurring in the 1500s. Colorado River floodwaters continued to reach the sink after that time, including into the 1800s. However, today's extensive system of upstream water development and control projects in the Colorado River Basin prevent the river from returning to the sink. The present sea is sustained largely by agricultural runoff from the Imperial and Coachella valleys, which are irrigated with Colorado River water diverted through the All American and Coachella canals.

Land use in the area immediately surrounding the sea is predominantly agricultural. Much of the land underlying the sea is federally owned, and was designated for use as an agricultural drainage repository by federal executive orders. The Torres-Martinez Indian Reservation and Salton Sea State Recreation Area are located at the northern end of the sea; the Sonny Bono Salton Sea National Wildlife Refuge is located at the southern end. The refuge, much of which was submerged by rising sea levels subsequent to its creation, was established in 1930 to reduce waterfowl damage to area crops.

The endangered desert pupfish is the only native fish species in the sea. The introduced fish species - predominantly tilapia, Gulf croaker, orangemouth corvina, and sargo - sustain an important sport fishery and provide the food base for fish-eating birds. A Department of Fish and Game report, [Fish Bulletin No. 113](#), describes the history of fish introductions at the sea. The sea supports the endangered brown pelican, more than 90 percent of the North American population of eared grebes, and more than 80 percent of American white pelicans. There are more than 50 species of special status birds (threatened, endangered, or species of concern) at the sea and its environs. The sea and surrounding farmlands are a birders' paradise, especially during the winter/early spring peak migration season. With some 97 percent of California's historical wetlands having been converted to other land uses, remaining avian rest stops like the Salton Sea are

crucial to migratory birds.

Human uses of the sea are varied. Archaeological evidence - including prehistoric fish traps -- attests to Native American reliance on the prior Lake Cahuilla as a source of food resources. Historically the sea was an important Southern California destination for water-based recreation, especially for boating and sport fishing opportunities. Birding is now becoming an increasingly popular winter tourism activity. The Salton Sea State Recreation Area, the largest recreational access point at the sea, provides camping and day-use facilities.

Unless actions are taken to address the sea's increasing salinity, the sea will become too saline to support its present fishery and associated avian population. Alternatives for maintaining the entire sea at near-present salinity levels were evaluated pursuant to the federal Salton Sea Reclamation Act of 1998. None of these alternatives were implemented because of their high costs and institutional and environmental difficulties. Subsequently, concepts were proposed that would maintain only a portion of the present sea at present salinity levels, potentially reducing the scope and cost of restoration to a more manageable level. The restoration study prepared in compliance with the QSA implementation legislation will examine the smaller sea approach, as well as other alternatives designed to sustain maximal fish and wildlife resources at the sea.