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Position Statements

Salton Sea Home Page

[Note: The statement below is a fact sheet on the Salton Sea issued in August 1998 by Defenders of Wildlife. They have also issued statements by W. Snape and J. Fritschie on problems of the lower Colorado River delta.]

# The Ecological Realities of the Salton Sea

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**BACKGROUND:** The Salton Sea, California's largest body of water, is in trouble. As a haven for wildlife, including more than 380 species of birds and 40 mammals including Endangered Species Act listed animals such as the brown pelican, Yuma clapper rail, bald eagle and peregrine falcon. The Salton Sea has become a fatal attraction as a result of its polluted and saline water. Because much of California's natural watersheds, wetlands and marshes have been destroyed by urban growth and development, the Salton Sea has become an important stopover in the Pacific Flyway migration for many bird species. In addition to its ecological importance, the Salton Sea has the potential to be a valuable recreational and economic resource to local communities.

However, due to its deteriorating water quality, the number of visitors to the Sea over the past 30 years has understandably declined. Deposits of rich alluvial sediments from the Colorado River has made for a rich agricultural environment in the neighboring Imperial and Coachella valleys. In 1901 the Imperial Canal was built with the intention of carrying Colorado river water to the Imperial Valley/Salton Basin for the purpose of agricultural development. Although the Sea was created by the flooding of the Colorado River in 1905, the Sea is now supported as a permanent body of water mainly by agricultural run off and wastewater from Imperial Valley, Coachella Valley, and Mexicali Valley in Mexico. This agri-business wastewater is carried by the New, Alamo and Whitewater Rivers, which flow directly into the Sea. The water from the New and Alamo rivers make up 86% of the total inflow into the Sea. The New River is supported by 75% from the Imperial Irrigation District (IID) and 25% from Mexico's Mexicali Valley drainage. The Alamo River is supported entirely by wastewater from IID which receives 2.8 million acre feet/yr of Colorado River water, and has recently used more than 3.1 million acre feet of water.

To put this in context, California as a state receives just 4.4 million acre feet/yr and Arizona just 2.8 million acre feet/yr (1 acre foot/year is enough for a family of four, and 3 million acre feet/yr is enough for 12 million people annually). Over the past four years, more than 175,000 birds and millions of fish have died at the Sea. Between August and November of 1996, avian botulism at the Sea killed over 14,000 birds including 1,400

endangered California brown pelicans. The salinity of the water continues to rise, reaching levels higher than the Ocean. The disposal of domestic, agricultural and industrial waste water, effluent, landfill leachate, toilet paper, dead animals and toxic waste into the Sea from the New River, have added to the increasing level of pathogenic content.

There have been numerous studies done on the Salton Sea by many different agencies, institutions and experts. These include the Bureau of Reclamation, the consulting group Ogden Environmental and Energy Services funded by a 1994 Clean Lakes Grant from the EPA, the Salton Sea Authority which was established by Congress, and many other scientists and entities. The overall consensus with these studies is that something needs to be done soon. These combined studies have come up with at least 60 basic alternatives on how to restore the Sea, which can be grouped into five categories.

**ALTERNATIVES:** The five general types of alternatives include:

**Diking:** The idea of a diked impoundment is to create an evaporation pond within or outside of the sea's original body of water. This pond or evaporation basin collects and concentrates the brine by evaporating the brackish Sea water within the impoundment. The pond would do two things. First, it would admit water from all of the sources flowing into the Sea such as the Alamo and New Rivers, and only release water that is less saline into the Salton Sea. Second, it would let water from the Sea flow into the pond through inlets, concentrate it through evaporation and, again, only let less saline water back into the Sea. Eventually the salt sediments and other materials in the pond would need to be disposed of. Diked impoundments clean the Sea, reducing the saline levels and the content of other solids. Because the less salty water in the Sea would evaporate more quickly than the salty water in the impoundment, there would be a necessity to control the flow of water between the two as to not let the Sea become too fresh and to help maintain the overall salinity and water level.

**Pump-out:** This would create a way to remove dirty and saline Salton Sea water from the lake, as water from the inlet sources continue to flow in. This alternative would pump this dirty and saline water to a dry lakebed, onshore evaporation ponds, the Mexican delta wetlands, Gulf of California or to the Pacific Ocean. This would lower the level of the lake, and would not provide a way to maintain the same level of water in the Sea, unless a pump-in solution is devised along with it. The pump-out solution, as well would only create a new ecological hazard wherever the dirty water goes, unless the water gets treated before it reaches one of these destinations, which itself is costly, which treated before it reaches one of these other destinations, which itself is costly.

**Pump-in:** The pump-in solution requires water from another water source, primarily that from the Colorado River, the Pacific Ocean or the Gulf of California. It could, theoretically, add to the pump-out solution by transporting water into the Sea via existing canals, or a new pipeline canal system, helping to stabilize the elevation of the sea, and

help dilute the sea to a lower salt content. Finding adequate fresh water is, however, a major challenge.

**Restore the Lower Colorado River Basin:** The most comprehensive solution is to look at the entire Colorado River ecological system as a whole when discussing the Salton Sea. Rampant human population, concomitant growing water use, and massive riparian habitat degradation have greatly harmed the Lower Colorado River Basin (LCRB), the wetlands that feed into the Gulf of California and the broader Sonoran Desert Ecosystem. Many species, on both sides of the U.S.- Mexican border, are threatened by the current unsustainable use of the Lower Colorado's natural resources. There is currently underway a Multi-Species Conservation program (MSCP) which was created by the lower basin states (California, Nevada, and Arizona), and the federal government under the Endangered Species Act (ESA). The ecological quality of the LCRB is significantly dependent on U.S. regulatory structures that determine quantity and timing of water releases in the river's lower stretch. With the coordination of environmental groups and native peoples, the goal of the MSCP should be to look for ways to restore and ensure greater natural water flow through the lower Colorado and into the Gulf of California. The restoration of this part of the Colorado River is more valuable to a greater number of species and people, and should be addressed as a solution to the Salton Sea in the context of one regional ecosystem. Migratory birds, for instance, once flocked in vast numbers in the Mexican delta wetlands.

**No Action:** There is the solution of doing nothing to restore the Sea. This alternative is politically unpopular, because it would either mean that the salinity levels and elevation of the sea would continue to rise or, conversely, the Sea eventually could evaporate completely.

**CRITERIA:** The four criteria most frequently mentioned to choose an alternative are:

- 1) The target salinity should protect the existing fishery in the Sea, which will necessitate salt levels not significantly greater than ocean water.
- 2) A target elevation should protect existing wetland areas along the shoreline to discourage overuse of fresh water.
- 3) The alternative cannot use any unproven technology, in order to assure that only successful and workable projects will be attempted.
- 4) Operation and Management costs must not be too expensive.

**SALTON SEA BILL IN THE HOUSE:** In July, the House passed a Salton Sea bill that Defenders believes will not solve the Salton Sea's problems and will cost the American taxpayer hundreds of millions of dollars. Problems with the bill include: It authorizes too much money ( \$350 million) for construction costs before a feasibility study is even complete; It inexplicably shields the Imperial Irrigation District from liability on its wastewater discharges into the Sea, although it is the main source of pollution going in to the Sea; and It provides for unneeded Clean Water Act exemptions despite the fact that

supposed point of the bill is to clean the water of the Salton Sea.

**CONCLUSION:** Defenders supports a smaller, cleaner, more easily managed, and more fiscally responsible Salton Sea. Preliminary studies indicate that a combination of diking and pump-out are the best options currently available, although serious concerns of how to handle the pumped-out wastewater need to be addressed. An ecologically and fiscally sound Salton Sea in the context of a restored Lower Colorado River Basin would be an international success story. The reality, however, is that the Salton Sea may never be swimmable again due to the reality that significant amounts of wastewater continue to flow into it. For more information, contact Bill Snape, Legal Director, 202-682-9400 ext. 232.