

# Salton Sea Science Subcommittee

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# DRAFT

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Professor Edward Glenn  
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Dear Professor Glenn,

It was a pleasure to meet you at the recent UC MEXUS meeting in Riverside. Thank you for sharing the Draft Position Statement on the Salton Sea. I offer the following comments for your consideration relative to the October 1988 draft.

A natural "Salton Sea" is an intermittent water body of dynamic fluctuations with flooding creating large bodies of fresh water every 400-500 years and sustaining water at diminished volumes and increasing salinity over a relative short period of one to several decades before reverting to dryness. Such cycles no longer occur because of human actions to control the flows of the Colorado River. These cycles can no longer be restored because of human priorities for the use of Colorado River water and human values that would be negatively impacted by allowing flooding by the River to flow into the Salton Sink. Therefore, for the Salton Sea to exist, it must be sustained by agricultural flows, some other human actions to deliver water to the Salton Sink, or both. The point I believe we all agree on is that the Salton Sea is a modified ecosystem sustained as a waterbody by human actions.

An area of difference is the role humans perceive this "artificial system" serving in the conservation of species, populations, and the biodiversity of fauna. Since human actions are the means by which the Salton Sea is to be sustained in any state (highly saline or otherwise) human values become the foundation for action to be taken. Recent expression of those values have resulted in five objectives that were displayed at the UC MEXUS meeting and have been noted elsewhere. The Draft Position Statement does not serve those values. It is not my purpose to argue those values vs those proposed in the Draft Position Statement. Instead, I note that these differences e

exist and focus the remainder of my comments on considerations regarding the conservation of species utilizing the Salton Sea.

The first area of concern for me is that there is a significant biological difference in a waterbody supporting large numbers of birds, and a wide diversity of bird species. I have no personal familiarity with Mono Lake but have a reasonable amount of on-site experiences at the Great Salt Lake. The diversity and abundance of bird life present would not be sustained without the large amount of diverse habitat that is part of the Great Salt Lake ecosystem. Many of the species are fish-eaters, others are omnivorous, and others are specialized feeders that are not dependent upon brine shrimp and brine flies. Periodic flooding at the Bear River marshes results in this portion of the ecosystem being rather dynamic and unstable relative to the Great Salt Lake itself, which is also occasionally impacted by flooding. The point of my comments is that from an ecosystem perspective, the Great Salt Lake and the Salton Sea differ in important ways relative to their ability to provide for the diversity of bird they both currently sustain.

An issue for me personally is the concept, "that the best way to develop a sustainable ecosystem (one capable of receiving agricultural drain water indefinitely) might be to allow the Salton Sea to evolve in the direction of the natural salt lakes in the region." I believe ephemeral playas are the natural end result. Receipt of agricultural drainwater is a human action not a natural process and there is nothing that prevents the Salton sink from receiving that water indefinitely. Therefore, we are back to the fact that human values dictate what is to be sustained by human actions. "Nature" has been greatly adulterated by drainage, land-use patterns, and other factors that have significantly reduced the resiliency and redundancy of natural systems to accommodate recovery of species and populations following catastrophic events and that associated with increased levels of chronic attrition. Therefore, it seems that judgements to narrow the role of the Salton Sea to habitat for a few selected species that feed on brine shrimp vs. a larger number of species that require other types of a food base can only be made in the context of larger-scale perspective of sustainability of the species involved.

A second area of concern is the statement that, "as salinity increases, we believe that the biological hazards associated with the present ecosystem will diminish, as exotic species are replaced by better adapted, halotolerant species forming more stable food chains." The biological hazard of great prominence at the Sea is avian mortality. The halotolerant species at the Great Salt Lake that feed heavily on brine shrimp and brine flies have suffered catastrophic losses from avian botulism (type C), erysipelas, avian cholera, and other disease. The argument that allowing the Salton Sea to become highly saline will diminish wildlife hazards by diminishing pileworm and fish populations

is without good scientific foundation as noted by the above statements regarding disease at the Great Salt Lake. Additional challenges to that these are:

1. Selenium toxicity has not been documented at the Sea and to emphasize potential problems that may occur ignores existing disease problems of far greater magnitude than any realistic impacts from selenium. Further, the proposed action does not consider actions to manage selenium input into the Sea.
2. The stated hazard of pileworms as part of an infectious disease chain is without foundation. Avian botulism is not an infectious disease (also, the causative agent is a bacterium not a virus). There is no current scientific data to support the state that Vibrio infections create anerobic conditions in the gut of tilapia, thereby allowing bacterial multiplication. Further, the perspectives offered regarding the association of avian botulism and fish kills are faulty.

In general, the perspectives offered regarding disease need to be reconsidered. If I can be of assistance by discussing disease situations at the Sea in more detail please do not hesitate to contact me. I do not have time to prepare any written comments but can provide input in other ways.

Thank you for the opportunity to comment and I hope you will view these comments from the constructive perspective in which they are offered.

Sincerely,

Milt Friend  
Executive Director  
Salton Sea Science Subcommittee