

EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]: State in layman's terms the application's broad, long-term objectives and specific aims, making reference to the potential public benefits of the project relevant to California. Do not include proprietary or confidential information. This may be distributed before the funding decision has been finalized.

The Salton Sea formed in 1905 by the accidental diversion of the Colorado River into the Salton Sink. This lake is used for sport fishing and is an important stop over for migratory birds. It has been maintained by run-off from agricultural and municipal wastewater, but has become increasingly salty and polluted. Recently, algae blooms and fish kills have become common and threaten the survival of the entire ecosystem. Bacteria are generally known to play important roles in the cycling of nutrients that have effects all the way up the food chain. However, at this point, very little is known about the bacterial community of the Salton Sea. The goal of his study will be to survey the Salton Sea microbial community to increase our understanding of the diversity of microorganisms there and to gain an understanding of the role microbes play in nutrient cycling. To do so, we would like to establish the Salton Sea as an important site of field research where CSULB students working in my laboratory can learn to apply molecular biology techniques to study the diversity of microorganisms in the environment. This study will benefit the state of California by increasing our understanding of the microbial groups living in this important aquatic habitat. Specifically we will monitor seasonal changes in the kinds of bacteria found in the water column and sediments of the Sea. This may also result in the identification of novel microbes with unique and unknown capabilities. Finally, it will improve our ability to design strategies for using microbes to reduce the pollution in the lake, thereby ensuring the viability of this important Salton Sea ecosystem.