



FORESTRY, FIRE & STATE LANDS REQUEST FOR GRANT APPLICATION Cover Sheet



Project Title	Impacts of the Deep Brine Layer on the Benthic Invertebrate Prey of Birds in Farmington and Bear River Bays of the Great Salt Lake		
Lead Project Sponsor	Utah State University		
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Project Description / Abstract	<p>Summary: Two large wetland bays in the Great Salt Lake that support massive populations of migratory birds are under potential stress from wastewater releases, metal contaminants and from salt pond development. Farmington Bay receives very high nutrient loads from metropolitan Salt Lake City and is hypereutrophic with frequent periods of complete anoxia. An anoxic deep brine layer formed as a consequence causeway construction and eutrophication likely eliminates prey entirely in perhaps 50% of the bay. Mercury levels in the bay's sediments are also extremely high. Bear River Bay has considerably better water quality, but a proposed expansion of salt ponds there would substantially decrease wildlife habitat. The abundances of benthic insect prey in these two bays have not been studied, but the impacts of the deep brine layer, eutrophication and pond construction may have serious impacts on this food resource for birds. We propose to study the seasonal changes in the distribution and abundance of the prey and water quality to help understand what these impacts may be. The outcome of the study would provide information for managers deciding whether the bay should be classified as an impaired water body, whether salt pond expansion should be permitted, and how modification of the automobile causeway would influence the benthic invertebrate food supply of birds.</p>		
Project Funding	Amount Requested	Matching Funds	Total Project Cost
	\$69,453 over 2 years	\$	\$69,454