



FORESTRY, FIRE & STATE LANDS REQUEST FOR PROPOSALS Cover Sheet



Project Title	Mercury loading dynamics in causeway restricted bays of Great Salt Lake: Assessing short- and long-term dynamics using in situ measurements		
Lead Project Sponsor	Brigham Young University		
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Project Description / Abstract	<p>Causeway restricted bays (Gunnison and Farmington Bays) within the Great Salt Lake ecosystem represent some of the largest potential loading sources of mercury (Hg) entering Gilbert Bay. Hg_{total} concentration in water samples from Gunnison Bay typically exceed 20 ng/L and create large Hg loads to the anoxic parts of Gilbert Bay during flow reversal events (Naftz and others, in press). Furthermore, in 2007-08 almost 50 percent of the total Hg load to Gilbert Bay was from Farmington Bay (Naftz and others, 2009). With the proposed addition of a second breach in the railroad causeway, additional monitoring equipment and techniques are needed to better characterize Hg loading dynamics to Gilbert Bay from Gunnison and Farmington Bays.</p> <p>The proposed project will combine continuous water-quality instrumentation with existing USGS gages at the Railroad and Farmington Bay causeway breaches to continuously monitor Hg_{total} loadings to Gilbert Bay. Specific project objectives will be to: (1) utilize water-quality sondes to continuously monitor in situ fluorescent dissolved organic matter (fDOM) and turbidity at each of the causeway breach sites; (2) collect discrete water samples concurrent with sonde monitoring data and analyze for selected Hg species and DOM; and (3) utilize data from objectives 1 and 2 in combination with existing hydroacoustic velocity data to develop regression models that can be used to provide continuous, real-time Hg_{total} and MeHg loading estimates from both causeway breach sites.</p>		
Project Funding	Amount Requested \$ 41,380 FY14 \$ 23,380 FY15	Matching Funds \$ 17,000	Total Project Cost \$ 81,760