Tidal wetland restoration and other CALFED restoration actions will alter many processes that are known to influence net methylmercury production and mercury accumulation in food webs. Increases in food web accumulation would exacerbate current concerns over exposure of humans and wildlife to mercury in the Estuary. CALFED restoration actions can be expected to affect mercury bioaccumulation on a local scale. Flooding of upland areas, altered hydrological regimes, and use of dredged material for wetland creation may create conditions favoring enhanced net methylmercury production in tidal wetlands. The extent of increases in methylmercury production may be minimized through thoughtful selection and design of restoration projects. Given the well established associations of net methylmercury production with flooding of uplands and with the percentage of wetlands within a watershed, it is probable that regional increases in mercury bioaccumulation will also occur. From a management perspective, the prudent course would be to minimize risk as much as possible based on existing knowledge while conducting the research needed to reduce the negative impacts of future restoration projects and the monitoring needed to assess regional and local impacts. We recommend: 1) A serious, multifaceted research effort on mercury should be an on-going part of CALFED restoration over the next 20 years. 2) Long-term monitoring should be performed to ascertain the impact of CALFED actions on mercury bioaccumulation on both a regional and local scale. 3) Detailed surveys should precede restoration projects to document existing mercury concentrations in affected areas and to evaluate the potential for increased food web accumulation. 4) Spatial patterns in mercury accumulation within marshes, among marshes in the same region, and among marshes in different regions are likely to exist and need to be understood. 5) Mercury transfer through the food web to species at risk, including humans, must be better understood.