

## Implementation of Mercury Strategy: 2004-2005 Workplan Draft 1/23/04

	<b>1. Quantification and evaluation of mercury and methyl mercury sources</b>	<b>2. Remediation of source areas</b>	<b>3. Quantification of effects of ecosystem restoration on MeHg exposure</b>
<b>PAST/ CURRENT</b>	<ul style="list-style-type: none"> <li>• Quantify mercury loads to Bay-Delta from tributaries, and sources and loads in tributary rivers ( C )</li> <li>• Investigation and preliminary assessment of abandoned mine sites, database development (D,F)</li> <li>• Determine “hot spots” for bioavailability and temporal variation. ( C )</li> <li>• Determine bioavailability, sediment flux and methylmercury production of sediments in different areas and habitats. ( C )</li> <li>• Characterize processes and factors affecting methyl mercury production and bioaccumulation in the food chain (E)</li> </ul>	<ul style="list-style-type: none"> <li>• Investigation and preliminary assessment of abandoned mine sites, database development ( D,F)</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate effects of wetland restoration on methylmercury production and exposure (B)</li> <li>• Determine bioavailability, sediment flux and methylmercury production of sediments in different areas and habitats. ( C )</li> <li>• Characterize processes and factors affecting methyl mercury production and bioaccumulation in the food chain (E)</li> <li>• Evaluate effects of mercury in dredge tailings in Clear Creek</li> </ul>
<b>APPROVED</b>	<ul style="list-style-type: none"> <li>• Determine mass loading to the Delta including characterization of inputs from tributaries (H)</li> <li>• Evaluate sediment / water / and air exchange fluxes, including atmospheric deposition (H)</li> <li>• Subwatershed studies to investigate sources and cycling of mercury (H)</li> </ul>	<ul style="list-style-type: none"> <li>• Cache Creek Settling Basin Feasibility Study (I)</li> <li>• Support for regulatory activities for inactive mine sites affecting Bay-Delta (K)</li> </ul>	<ul style="list-style-type: none"> <li>• Study to evaluate factors contributing to methylmercury production and bioaccumulation in Petaluma River wetlands with different salinities and ages of marshes. (N)</li> <li>• Studies to evaluate factors controlling methyl mercury production in various habitats (H)</li> <li>• Study to evaluate potential mercury contamination from use of dredge tailings in the Merced River.</li> </ul>
<b>PROPOSED NEXT STEPS</b>	<ul style="list-style-type: none"> <li>• Solicitation for projects to fill critical data gaps.</li> </ul>	<ul style="list-style-type: none"> <li>• Solicitation for remediation projects (Prop 13 funds)</li> </ul>	<ul style="list-style-type: none"> <li>• Develop monitoring program to gather evaluate changes in methyl mercury production and exposure over time.</li> <li>• Provide coordination and information exchange between restoration managers and current research and monitoring.</li> <li>• Solicitation for additional projects to evaluate controllable factors in methylmercury production that will advise restoration activities.</li> </ul>

	<b>4. Monitoring, health risk assessment and communication</b>	<b>5. Assessment of Ecological Risk</b>	<b>6. Identification and testing of potential management approaches to reduce MeHg</b>
<b>PAST/ CURRENT</b>	<ul style="list-style-type: none"> <li>• Fish tissue monitoring in Delta and tributaries (C)</li> <li>• Needs assessment for education in 5 counties (G)</li> <li>• Evaluation of existing data on fishing pressure and fish tissue concentrations (G)</li> </ul>	<ul style="list-style-type: none"> <li>• Field and lab investigations of mercury concentrations in eggs and effects on avian reproduction (C)</li> </ul>	<ul style="list-style-type: none"> <li>• Several of these projects are developing an empirical understanding of the factors and processes that control methyl mercury production and bioaccumulation (B, C, E, H)</li> </ul>
<b>APPROVED</b>	<ul style="list-style-type: none"> <li>• Work with stakeholder and agencies to develop pilot education materials and education strategy (G)</li> <li>• Develop standardized database and begin to collect existing data into standardized format. (L)</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate trophic structures and bioaccumulation in 2 Delta sites (E)</li> <li>• Evaluate trophic transfer and effects on Clapper Rail in Petaluma R. wetlands (N)</li> <li>• Evaluate exposure pathways, mercury concentrations and effects on 3 guilds of birds in the Bay-Delta (M)</li> </ul>	
<b>PROPOSED NEXT STEPS</b>	<ul style="list-style-type: none"> <li>• Possible monitoring program, fish consumption studies, and continued public outreach and education</li> <li>• Additional work needed to collect existing data into standardized format.</li> <li>• Encourage use of existing data for education and advisories.</li> <li>• Continued coordination with other agencies and stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Solicitation for projects to fill data gaps, particularly for effects to fish reproduction.</li> </ul>	<ul style="list-style-type: none"> <li>• This component is a synthesis and integration of some of the other components. As more information becomes available on sources, cycling and factors it can be developed into predictive models that can be used to predict effects from various management actions.</li> </ul>

	<b>Management of Program: Communication and Coordination</b>	<b>Science and Adaptive Management</b>	<b>Quality Assurance and Data Integration</b>
<b>PAST/ CURRENT</b>	<ul style="list-style-type: none"> <li>• Coordinate with existing groups to share information and collaborate on common goals.</li> <li>• Past project reports available on website, presentations at workshops and science conference (B, C)</li> </ul>	<ul style="list-style-type: none"> <li>• Mercury strategy as a guidance document for mercury program</li> <li>• Completed projects have been reviewed by Scientific review panel</li> </ul>	<ul style="list-style-type: none"> <li>• Working with multiple agencies to develop and implement standardized database for fish tissue data (L)</li> <li>• Completed projects had coordinated quality assurance and comparison of results (C )</li> </ul>
<b>APPROVED</b>	<ul style="list-style-type: none"> <li>• Develop implementation “workplan” to identify priority actions for implementation.</li> </ul>		<ul style="list-style-type: none"> <li>• Contract with DFG to oversee quality assurance program (J)</li> <li>• Have current projects use standardized database for data</li> </ul>
<b>PROPOSED NEXT STEPS</b>	<ul style="list-style-type: none"> <li>• Communicate information from the mercury strategy and completed projects with Estuary newsletter insert</li> <li>• Special session at Science conference</li> <li>• Develop website for more detailed information about projects and activities</li> <li>• Develop additional informational materials: such as fact sheets, presentations, or press releases.</li> </ul>	<ul style="list-style-type: none"> <li>• Form scientific review committee to perform annual reviews and promote integration of all mercury related projects.</li> <li>• Recruit mercury coordinator for ongoing coordination of research and management efforts, development of annual reviews and integration of research from other watersheds.</li> </ul>	<ul style="list-style-type: none"> <li>• Require all new projects to use standardized QA procedures, participate in QA activities and report data in compatible format.</li> <li>• Fish tissue data to be made available on the web.</li> <li>• Facilitate data sharing between CBDA funded projects</li> </ul>