



~~Original~~ File: Clear Creek - Hernandez Reservoir
Mercury TMDL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901



JUN 21 2004

Ms. Celeste Cantú
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

Dear Ms. Cantú:

Thank you for submitting the total maximum daily load (TMDL) to address mercury impairment of Clear Creek and Hernandez Reservoir, California. The submission letter to EPA was dated April 27, 2004. Based on our review, EPA concludes that the TMDL adequately addresses the pollutant of concern and that upon implementation will result in attainment of applicable water quality standards. The TMDL includes allocations as needed, takes into consideration seasonal variations and critical conditions, and provides an adequate margin of safety. The State has provided adequate opportunities for public review of the Basin Plan Amendments that include all of the components of the TMDL. All required elements are adequately addressed; therefore, the TMDL is hereby approved pursuant to Clean Water Act Section 303(d)(2).

The attached review discusses the basis for this approval decision in greater detail. I appreciate the Regional Board's work to complete and adopt the TMDL and look forward to our continuing partnership in TMDL development. If you have questions concerning this approval, please call me at (415) 972-3572 or Cheryl McGovern at (415) 972-3415.

Sincerely,


Alexis Strauss
Director 21 June 2004
Water Division

Enclosure

cc: Roger Briggs, Executive Officer, Central Coast Regional Board,

**Staff Report Supporting Approval of TMDL:
Mercury – Clear Creek and Hernandez Reservoir
June 15, 2004**

Background

This TMDL and an implementation plan were adopted by the Central Coast Regional Water Quality Control Board on March 19, 2004 (Regional Board Resolution No. R3-2004-0029). Since the Board found that the existing remedial program of the U.S. Bureau of Land Management is successfully implementing the changes required to implement the TMDL, a Basin Plan Amendment is not required to implement the TMDL. The State's implementation plan provides for additional monitoring to demonstrate that water quality standards are being met, and indicates that additional implementation measures may be required in the event that standards are not met in response to this remedial program.

TMDL Review

On April 27, 2004, the Regional Board submitted the final TMDL to EPA for approval. The submission was received by EPA staff on May 3, 2004. Pursuant to Clean Water Act Section 303(d) and 40 CFR 130.2 and 130.7, EPA reviewed the TMDL submittal package to ensure that all required TMDL elements have been adequately addressed.

EPA's review is presented in the attached checklist, which documents EPA's findings that all required elements and an adequate level of technical justification for each element are included in the TMDL submission. Therefore, the TMDL should be approved.

TMDL Checklist

State: California

Waterbodies: Clear Creek and Hernandez Reservoir

Pollutant(s): Mercury

Date of State Submission: April 27, 2004 (received May 3, 2004)

EPA Reviewer: Cheryl McGovern

Review Criteria	Comments
<p>1. Submittal Letter: State submittal letter indicates final TMDL(s) for specific water(s)/pollutant(s) were adopted by state and submitted to EPA for approval under 303(d).</p>	<p>Final Staff Report prepared on February 25, 2004, p. 1: TMDLs are for mercury in Clear Creek and Hernandez Reservoir. These waterbodies are listed on the State's 2002 303 (d) list for impairment due to mercury.</p>
<p>2. Water Quality Standards Attainment: TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.</p>	<p>TMDL staff report dated February 25, 2004, p.1 and 2 state the water column target of 0.050 ug/L total mercury is the same as the standard set by the California Toxic Rule, MUN use and a fish tissue target of 0.3 mg/kg methylmercury in tropic level 4 species is also included as a target for Hernandez Reservoir based on proposed US EPA criteria. EPA promulgated the MUN mercury standard for California and is in the process of approving the fish tissue criteria in the near future based on recommendations from the US FWS.</p>
<p>3. Numeric Target(s): Submission describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. Numeric water quality target(s) for TMDL identified, and adequate basis for target(s) as interpretation of water quality standards is provided.</p>	<p>See Staff Report dated February 25, 2004. The California Toxic Rule standard and proposed US EPA fish tissue criteria are based on models designed to provide protection to people and aquatic life. These numbers are used as the targets for these TMDL's. This is further explained on page 5 of the TMDL Technical Support Analysis for Mercury Impairment of Clear Creek and Hernandez Reservoir dated March 10, 2004.</p>
<p>4. Source Analysis: Point, nonpoint, and background sources of pollutants of concern are described, including the magnitude and location of sources. Submittal demonstrates all significant sources have been considered.</p>	<p>TMDL Staff report dated February 25, 2004, page 2 explains that Clear Creek drains land that is predominantly US BLM land and enters Hernandez Reservoir. Regional Board Staff report indicates that mercury mining sites are the principal source of mercury discharges in the watershed. The source analysis which is described in more detail in the Technical Support Analysis report dated March 10, 2004, includes an assessment of historic and current land use activities as well as naturally occurring geologic features. Samples above, near, and downstream from mining sites were evaluated. Some historic mines that previously contributed to mercury contamination in Clear Creek appear to no longer cause violations of the CTR mercury standard.</p>

<p>5. Allocations: Submittal identifies appropriate wasteload allocations for point sources and load allocations for nonpoint sources. If no point sources are present, wasteload allocations are zero. If no nonpoint sources are present, load allocations are zero.</p>	<p>The TMDL Technical Support Analysis of March 10, 2004 for mercury impairment of Clear Creek and Hernandez Reservoir, pages 15 and 16, present the allocations. TMDLs and LAs are expressed as grams per year and were calculated by multiplying the concentration based water quality objective value by the average seasonal flows and a unit correction factor. To account for seasonal variations in loading capacity, quarterly average flow was selected as the basis for load allocations. Load allocations are set for Clear Creek and for Hernandez Reservoir in quarterly increments. Because of the restoration work done by USBLM at the significant sources of mercury, Regional Board staff estimate that allocations will be achieved within two years. There are no point sources; therefore, waste load allocations are zero. A USGS monitoring program will assess progress in achieving allocations and the Regional Board plans to require additional restoration if allocations are not met. The largest historic mining sites have been restored: Alpine Mine and Mill Site; Jade Mill Site; Xanadu Mill Site; Aurora Mine and Mill Site. Based on monitoring data collected in 2000-2002, mercury levels from these sites and the numbers of CTR exceedences have fallen dramatically from the levels and exceedences found in 1995 and 1996.</p>
<p>6. Link Between Numeric Target(s) and Pollutant(s) of Concern: Submittal describes relationship between numeric target(s) and identified pollutant sources. For each pollutant, describes analytical basis for conclusion that sum of wasteload allocations, load allocations, and margin of safety does not exceed the loading capacity of the receiving water(s).</p>	<p>The TMDL Preliminary Technical Support Analysis for mercury impairment of Clear Creek and Hernandez Reservoir dated March 10, 2004, page 15 describes the linkage between mercury levels in fish tissue targets designed to protect human health, water column mercury concentrations, and mercury loads to the system.</p>
<p>7. Margin of Safety: Submission describes explicit and/or implicit margin of safety for each pollutant.</p>	<p>The TMDL Technical Support Analysis for mercury impairment of Clear Creek and Hernandez Reservoir dated March 10, 2004, provides an implicit margin of safety as follows. For Clear Creek, the TMDL calculations include data for recent low flow conditions adjusted for critical seasonal times and apply the lowest applicable sediment guidance value in evaluating site-specific data. For Hernandez Reservoir, the TMDL calculation uses conservative water storage volume estimates to calculate the TMDL. The use of seasonally adjusted TMDLs provides an additional implicit MOS because it accounts for seasonal variations in flow in loading capacity. Finally, the inclusion of fish tissue targets based on recent EPA criteria guidance provides coupled with a commitment to followup TMDL monitoring and evaluation provides a further MOS because it creates a mechanism for revising the TMDL in the future if necessary.</p>

<p>8. Seasonal Variations and Critical Conditions: Submission describes method for accounting for seasonal variations and critical conditions in the TMDL(s)</p>	<p>The TMDL Technical Support Analysis for mercury impairment of Clear Creek and Hernandez Reservoir dated March 10, 2004, page 16. The TMDL and load allocations are defined by season to address seasonal variations in flow conditions and resultant loading capacity.</p>
<p>9. Public Participation: Submission documents provision of public notice and public comment opportunity; and explains how public comments were considered in the final TMDL(s).</p>	<p>The Regional Board held public workshops and hearings and provided opportunities for the public to submit written comments on the TMDL proposal. (See staff report and Board Resolution for details on public participation activities</p>