COMMENTS

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

D-035712

D—035712

Draft CALFED Water Quality Actions Framework for Mercury

Assess and Eliminate Mercury Impacts in the SF Bay/Delta and Tributaries

Objective

Reduce mercury in water and sediment to levels that do not adversely affect aquatic organisms, wildlife, and human health
(Water Quality Program Plan, pg. 4-2, Bundle #'s 21, 22, 50)

Task	Action Description	Implementing Entity(ies)	Geographic Area	Potential Funding	Indicators of Success	Completion Date	Total $$ Required	Funding Deficit$$	Funding Plan for deficit	Date to Secure $$	Rank[2]	WQP Plan Reference
A	Generate mercury targets to protect human health and wildlife; assess risk at those target levels	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	see attached table	Regional Board approved reports on targets (interim for wildlife)	2003	see attached table	see attached table	see attached table		H	4-9, C-6
B	Determine sources, loads and bioavailability of mercury	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	see attached table	Regional Board approved reports on sources, loads and bioavailability of mercury	2003 2004	see attached table	see attached table	see attached table		H	4-10 C-5
C	Develop a Long Term mercury Control and Remedial Action Plan that meets Federal and State requirements	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	see attached table	Basin Plan amendment with mercury objectives, TMDL reports and implementation plans	2005	see attached table	see attached table	see attached table		H	4-11
D	Implement Mercury Control and Remedial Action Plan	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	Funding needed	Remediation activities implemented in accordance with Mercury Control and Remedial Action Plan	on-going	see attached table	see attached table	see attached table			C-5
E	Evaluate the Effectiveness of mercury Control and Remedial Activities	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	Funding needed	Monitoring results that show interim targets are being met in accordance with TMDL time schedule	on-going	unknown	unknown	unknown			C-6
F	Update Tasks A-E as Necessary	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	Funding needed	Periodic workshops on success of TMDLs in achieving targets	on-going	unknown	unknown	unknown			4-13
G	Federal and State Oversight of A-E as Necessary	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	Funding needed	Regional Board oversight of activities	on-going	unknown	unknown	unknown			

[1] Mercury CC = mercury coordination committee, made up of numerous agency representatives and local watershed stakeholders interested in coordinating mercury activities on a regional level
[2] Priority Ranking : H = high priority activities that require funding in the next two years

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Draft CALFED Water Quality Actions Framework for Mercury

Assess and Eliminate Mercury Impacts in the SF Bay/Delta and Tributaries

Objective

Reduce mercury in water and sediment to levels that do not adversely affect aquatic organisms, wildlife, and human health
(Water Quality Program Plan pg. 4-1; Bundle #'s 21, 22, 50)

Tasks

A. Generate Mercury Targets to Protect Human Health and Wildlife and Assess Risk at Those Target Levels (Adaptive Management Step 2 – from Phase II report)

B. Determine Sources, Fate, and Transport of mercury (AM Steps 1 and 3)

C. Develop a Long Term mercury Control and Remedial Action Plan that meets Federal and State requirements (AM Step 4)

D. Implement Mercury Control and Remedial Action Plan (AM Step 5)

E. Evaluate the Effectiveness of mercury Control and Remedial Activities (AM Step 6)

F. Update A-E as Necessary (AM Step 7)

G. Federal and State Oversight of A-E as Necessary

Task		Action Description	Implementing Entity(ies)	Geographic Area	Potential Funding	Indicators of Success	Completion Date	Total $$ Required	Funding Deficit $$	Funding Plan for deficit	Date to Secure $$	Rank[1]	WQP Plan Reference
A		Generate mercury targets to protect human health and wildlife; assess risk at those target levels	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	see below	Regional Board approved reports on targets (interim for wildlife)	2003	see below	see below	see below		H	4-9, C-6
A	1	Determine fish tissue mercury target to protect human health	Mercury CC[1], OEHHA	Cen. Valley and Bay Regions	CALFED, SRWP	Watershed report	1999	325,000	0			H	4-9, C-6
A	2	Determine interim fish tissue mercury targets to protect wildlife	Mercury CC[1], USFWS, DFG	Cen. Valley and Bay Regions	CALFED, SRWP	CALFED avian report, watershed report	2001	335,000	0			H	4-9, C-6
A	3	Identify data gaps and needs for fish tissue and wildlife monitoring required for performing risk assessments	Mercury CC[1], USFWS, DFG, SFEI, OEHHA	Cen. Valley and Bay Regions	CALFED, Add. funds needed	Report on data gaps and needs needed for human health and wildlife risk assessments	2001	100,000	70,000	CALFED, SRWP, in kind services from agencies	1999	H*	4-9, C-6
A	4	Plan and undertake fish and wildlife monitoring to fill data gaps in risk assessment information	DFG, USFWS, USGS, SFEI, OEHHA,	Cen. Valley and Bay Regions	CALFED Add. funds needed	Monitoring results reports; information needed for human health & wildlife risk assessments		1 million	1 million	CALFED, SRWP, in kind services from agencies	2000	H*	4-10, C-6

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Draft CALFED Water Quality Actions Framework for Mercury

Task		Action Description	Implementing Entity(ies)	Geographic Area	Potential Funding	Indicators of Success	Completion Date	Total $$ Required	Funding Deficit $$	Funding Plan for deficit	Date to Secure $$	Rank[2]	WQP Plan Reference
A	5	Evaluate fish consumption patterns to outreach public health hazard to appropriate groups, post advisories as needed	OEHHA, Co. Health Depts, watershed groups	Cen.Valley and Bay Regions	Funding needed	Reliable demographic and consumption data to identify high-risk portions of population; post advisories as needed		300,000	300,000				4-9 C-6
A	6	Complete wildlife risk assessment	DFG, USFWS	Cen.Valley and Bay Regions	Funding needed	Assessment of risk to wildlife based on interim target and monitoring information		100,000	100,000				4-11 C-6
A	7	Continue to evaluate interim wildlife targets to identify potentially more sensitive species	DFG, USFWS	Cen.Valley and Bay Regions	Funding needed	Additional wildlife targets for species where less toxicological information is known	2005				2005		4-9
B		Determine sources, loads and bioavailability of mercury	CVRWQCB, SFBRWQCB	Cen.Valley and Bay Regions	see below	Regional Board approved reports on sources, loads and bioavailability of mercury	2003 2004	see below	see below	see below		H	4-10 C-5
B	1	Fill data gaps regarding total and methyl mercury loads to the Delta	USGS, UCD, CVRWQCB, SRWP	Cen.Valley and Bay Regions	CALFED	Reports comparing riverine inputs versus Bay-Delta sediment production of methyl mercury	2002	300,000	0			H	4-10 C-6
B	2	Detailed follow-up source analysis for major riverine inputs as determined in task B1	Mercury CC[1]	Cen.Valley and Bay Regions	CALFED Adl. funds needed	Reports detailing primary methyl mercury sources for significant watersheds identified in B1	2002 for Cache	600,000	200,000	CALFED, SRWP, in kind services from agencies	2001	H	4-10 C-6
B	3	Identify ecological/physical processes that promote mercury methylation	UCD, Texas A&M	Cen.Valley and Bay Regions	CALFED Adl. funds needed	Series of reports identifying principal methylation processes and locations	2002 for Delta	2.2 million	1 million	Need resources to study processes outside of the Delta	2000	H*	4-10
B	4	Determine demethylation processes and show where processes apply to conceptual model		Cen.Valley and Bay Regions	CALFED Adl. funds needed	Links of how demethylation of mercury affects mercury in ecosystem and fish tissue		?					4-13 C-6
B	5	Develop models to predict bioavailability of mercury loads from specific sources	UCD	Cen.Valley and Bay Regions	CALFED Adl. funds needed	Models predicting impacts of upstream mercury input on local watersheds and Bay-Delta	2002 for Cache	3 million	2 million	Target CALFED for funds to develop models for the Delta and other major tributaries	2001	H*	4-10 C-6

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D-035715

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Draft CALFED Water Quality Actions Framework for Mercury

Task		Action Description	Implementing Entity(ies)	Geographic Area	Potential Funding	Indicators of Success	Completion Date	Total $$ Required	Funding Deficit $$	Funding Plan for deficit	Date to Secure $$	Rank[2]	WQP Plan Reference
C		Develop a Long Term mercury Control and Remedial Action Plan that meets Federal and State requirements	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	see below	Basin Plan amendment with mercury objectives, TMDL reports and implementation plans	2005	see below	see below	see below		H	4-11
C	1	For major sources of bioavailable mercury in Cache Creek, determine most cost-effective control methods to minimize off site mercury movement	DOC - DMG	Cache Ck	CALFED	Report identifying control options, and their costs for major sources in Cache Creek	2002	100,000	0		2001	H	4-11 C-5
C	2	For the sources of bioavailable mercury identified in Task B2, determine most cost-effective control methods to minimize off site mercury movement		Cen. Valley and Bay Regions	Funding needed	Report identifying control options, and their costs for major sources identified in Task B2.		300,000	300,000	CALFED, SRWP, in kind services from agencies	2001	H	4-11 C-5
C	3	Finalize Record of Decision for remediation of Sulphur Bank Mine	US EPA - Superfund	Clear Lake	US EPA - Superfund	Record of Decision	2003		0			H	
C	4	For the processes identified in Task B3, determine most cost-effective control methods to minimize methylation		Cen. Valley and Bay Regions	Funding needed	Report identifying control options, and their costs for processes identified in Task B3.		100,000	100,000	CALFED, SRWP, in kind services from agencies	2001	H	4-11
C	5	Complete a TMDL report for Cache Creek	CVRWQCB, Mercury CC[1]	Cache Ck	US EPA	TMDL report for Cache Creek	2002	150,000	0			H	C-5
C	6	Complete a TMDL report for Sacramento River	CVRWQCB, Mercury CC[1]	Sac. River	US EPA	TMDL report for Sacramento River							C-5
C	7	Complete a TMDL report for the Delta	CVRWQCB, Mercury CC[1]	Delta	US EPA	TMDL report for the Delta	2003	200,000	0			H	C-5
C	8	Complete Basin Plan amendment for TMDLs	CVRWQCB	Cen. Valley Region	Funding needed	Basin Plan amendment with mercury objectives, TMDL reports and implementation plans	2005	600,000	600,000		2001		
C	9	Provide coordination, facilitation and public outreach for mercury effort	Mercury CC[1]	Cen. Valley Region	SRWP, Adl. funds needed	Regular facilitated meetings with minutes and accomplishments, web-site		300,000	270,000	CALFED, SRWP, in kind services from agencies	1999	H	4-13 C-6

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Draft CALFED Water Quality Actions Framework for Mercury

Task		Action Description	Implementing Entity(ies)	Geographic Area	Potential Funding	Indicators of Success	Completion Date	Total $$ Required	Funding Deficit $$	Funding Plan for deficit	Date to Secure $$	Rank[2]	WQP Plan Reference
D		Implement Mercury Control and Remedial Action Plan	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	see below	Remediation activities implemented in accordance with Mercury Control and Remedial Action Plan	on-going						C-5
D	1	Federal Good Samaritan Act	US Congress, CALFED, SRWP			US Congress acepts legislation.		?				H	4-9
D	2	Select and implement new remediation projects for sources and ecological processes that promote methylation	DOC - DMG, responsible parties	Cen. Valley and Bay Regions	Funding needed	Decrease of mercury concentrations in fish							4-11
D	3	Implement remediation actions from Sulphur Bank Mine Record of Decision	US EPA - Superfund	Cen. Valley and Bay Regions	US EPA - Superfund	Meet mercury targets in Clear Lake to protect human health and wildlife							
D	4	Oversee implementation activities specified in Cache Creek TMDL report	CVRWQCB	Cache Ck	Funding needed	Meet mercury targets in Cache Creek to protect human health and wildlife							C-5
D	5	Oversee implementation activities specified in Sac. River TMDL report	CVRWQCB	Sac. River	Funding needed	Meet mercury targets in Sacramento River to protect human health and wildlife							C-5
D	6	Oversee implementation activities specified in Delta TMDL report	CVRWQCB	Delta	Funding needed	Meet mercury targets in the Delta to protect human health and wildlife							C-5
E		Evaluate the Effectiveness of mercury Control and Remedial Activities	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	Funding needed	Monitoring results that show interim targets are being met in accordance with TMDL time schedule	on-going						C-6
E	1	Evaluate success of remediation and TMDL implementation activities	Mercury CC[1], CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	Funding needed	Remediation such that interim mercury targets are met in accordance with TMDL schedule							C-6
E	2	Conduct necessary monitoring to establish success of TMDLs	DFG, USFWS, OEHHA	Cen. Valley and Bay Regions	Funding needed	Monitoring to show interim mercury targets are met in accordance with TMDL schedule							4-12

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Draft CALFED Water Quality Actions Framework for Mercury

Task		Action Description	Implementing Entity(ies)	Geographic Area	Potential Funding	Indicators of Success	Completion Date	Total $$ Required	Funding Deficit $$	Funding Plan for deficit	Date to Secure $$	Rank[2]	WQP Plan Reference
F		Update Tasks A-E as Necessary	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	Funding needed	Periodic workshops on success of TMDLs in achieving targets	on-going						4-13
F	I	Conduct periodic public review of TMDLs	CVRWQCB, SFBRWQCB ?	Cen. Valley and Bay Regions	Funding needed	Public workshops on success of TMDLs in achieving targets							4-13
G		Federal and State Oversight of A-E as Necessary	CVRWQCB, SFBRWQCB	Cen. Valley and Bay Regions	Funding needed	Regional Board oversight of activities	on-goirg						

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D035718

D-035718

Draft Framework for CalFed Water Quality Actions for Dissolved Oxygen

Low Dissolved Oxygen Concentrations and Oxygen-Depleting Substances in the Lower San Joaquin River

Task	Action Description	Implementing Entity(ies)	Geo-graphic Area [1]	Potential Funding [2,3]	Indicators of Success	Completion Date	Total $$ Required	Funding Deficit $$	Funding Plan [2,3]	Date to Secure $$	Priority [4]	Water Quality Program Plan Reference [5]
A	Formation of Steering and Technical Advisory Committees.	Steering Committee (SC)		See attached table	Regularly held facilitated meetings and minutes. List server and Web site	ongoing	See attached table	See attached table	See attached table	ASAP	High	BPTCP
B	Database Development and Data Collection for Sources and Magnitude of Oxygen Depleting Substances	SC and Technical Advisory Committees (TAC)		See attached table	Development of a database and reports summarizing results of field studies	1999 – 2001	See attached table	See attached table	See attached table	ASAP	High	BPTCP CP
C	Data Synthesis	SC and TAC		See attached table	Report summarizing source contributions and hydrological factors contributing to DO suppression.	1999 – 2001	See attached table	See attached table	See attached table	ASAP	High	BPTCP CP WQPP
D	Evaluate Alternatives and Develop Management Action Plan.	SC and TAC		See attached table	Reports summarizing management alternatives for responsible parties and a Management Plan.	2000 - 2001	See attached table	See attached table	See attached table	2000	High	BPTCP WQPP
E	Implementation Plan (IP). Recommendations from Task D will be submitted to CVRWQCB staff.	CVRWQCB		See attached table	The IP will outline load/ waste load allocations and control options for meeting Water Quality Objectives for dissolved oxygen. The IP will also include a compliance schedule	2002	See attached table	See attached table	See attached table	2002		BPTCP WQPP
F	Monitoring to Evaluate the Effectiveness of the IP.	SC and to be determined		See attached table	Compliance monitoring to meet targets and time-schedule outlined in the IP.	2002 and ongoing thereafter	See attached table	See attached table	See attached table	2003		BPTCP WQPP
G	Update A through F.	CVRWQCB and SC		See attached table	Compliance with the Basin Plan Water Quality Objectives for dissolved oxygen	unknown	unknown	unknown	See attached table			

[1] San Joaquin River within San Joaquin, Stanislaus and Merced Counties.
[2] The Steering Committee has contacted the State legislature for possible funding.
[3] Proposal submitted to CalFed on 16 April 1999 for one year (Phase I) of funding; the proposal included a budget for 2 additional years (Phases II and III).
[4] High priority is defined as the funding needed within the next 3 years.
[5] BPTCP: Bay Protection and Toxic Cleanup Program, Central Valley Regional Water Quality Control Board, December 1998.
CP: Proposal to CalFed entitled "Determination of the Causes of Dissolved Oxygen Depletion in the San Joaquin River", April 1999.
WQPP: Water Quality Program Plan, CalFed Bay Delta Program, January 1999.