



Clean Estuary Partnership

Multi-Year Workplan

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Multi-Year Plan

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Executive Summary

Monitoring of the San Francisco Bay ecosystem indicates continuing impacts of pollution, and the Bay has been listed as impaired pursuant to §303(d) of the Clean Water Act for PCBs, mercury, selenium, dioxins/furans, and various pesticides. The State of California must develop and adopt strategies, including Total Maximum Daily Loads (TMDLs), to address these impairments. Many recent legal and regulatory conflicts have convinced stakeholders to investigate a more collaborative approach for developing long-term strategies, which led to the formation in 2001 of the Clean Estuary Partnership (CEP). The CEP is based on a Memorandum of Understanding signed by the San Francisco Bay Regional Water Quality Control Board, the Bay Area Stormwater Management Agencies Association, and the Bay Area Clean Water Agencies (sewage treatment plants).

The CEP mission statement calls for strategies to attain water quality standards based on sound science, adaptive management, and public collaboration, as such strategies will have considerable credibility and legitimacy. To develop strategies with these characteristics, the CEP relies upon the development and use of conceptual models for each pollutant of concern. Conceptual models are an organized presentation (often in diagrammatic form) of our existing knowledge of pollutant sources, pathways through the environment, and the physical and biological processes in the ecosystem that produce impairments and mediate the response to management actions. Conceptual models can clarify important uncertainties that must be studied to reduce the risks of investing resources to implement strategies that do not solve the problems. The CEP will sponsor collaborative review of conceptual models, identifying important uncertainties to address with technical studies as part of adaptive implementation of TMDLs.

Conceptual models also form the basis for the development of numerical models that can be used to predict the response of impairments to alternative management actions, and (sometimes in simplified format) be used for outreach materials to nonscientists. Making scientific information available in this manner is a prerequisite for successful implementation of TMDLs or other strategies to attain water quality standards.

This multi-year plan presents five goals for the CEP to pursue as it seeks to achieve its mission, and describes the regulatory framework within which the CEP will need to operate. The CEP program components include coordination, participation and outreach, information management, administration, and technical projects. A multi-year schedule is presented for developing long-term strategies to address the impairments in the Bay, and the general activities of the CEP for implementation of this schedule are described along with an estimated budget.

By using the CEP in the process of developing TMDLs the State obtains opportunities early on to work with stakeholders to develop implementation concepts, refine key uncertainties, and obtain peer review. This effort will result in greater consensus regarding the technical foundation for regulatory action, and reduces the likelihood of public controversy (including litigation) when allocations are codified in the San Francisco Bay Basin Plan. Through the mechanism of transparent development, review, and revision of conceptual models, and the conduct of collaboratively-designed technical studies to address important uncertainties, the CEP seeks to merge the scientific method with adaptive management as part of the process for developing TMDLs in San Francisco Bay. The maintenance and refinement of conceptual models also provides a mechanism for the efficient transfer of scientific information to future generations of natural resource managers who will share the responsibility of addressing the pollution problems we have detected.

Introduction

Since adoption of the clean water laws in the 1960s-70s and the subsequent clean-up of effluent discharges, the water quality of San Francisco Bay has improved significantly. Despite these gains, however, monitoring of the Bay ecosystem indicates continuing impacts of pollution. The concentrations of pollutants in many fish are high enough to cause human health impacts, and there is evidence of toxic effects on wildlife. Runoff from urban areas and farms causes toxicity in rivers and streams, and sometimes in the Bay itself. The Clean Estuary Partnership was established to develop and implement strategies to address these environmental problems.

Developing and implementing long-term strategies for these problems is both scientifically and politically complex, and will only be accomplished over a period of decades. This is because (1) we are still learning about both the causes of the problems we've detected and the nature of potential solutions, (2) pollutants discharged to the Bay prior to environmental regulations are contributing to the problems, but these deposits are not readily removed except by natural processes that operate slowly, and (3) likely solutions will require long-term commitments of resources for which there are many competing uses in the near-term. Strategies will have to be carefully crafted utilizing the best available science applied in a process that provides the opportunity for reconciling diverse interests.

Public agencies have been working to solve these continuing problems, using the basic method found in Figure 1. While successful early on in developing and implementing strategies to deal with major problems such as the need for treatment of effluent discharges, recently regulatory decisions have more frequently resulted in many lengthy and costly legal challenges. These recent conflicts have given rise to the opinion that there is much to be gained by a more collaborative approach among the regulatory authorities, the regulated community, and other interested parties for developing long-term strategies. The potential for such an approach was recently demonstrated in developing long-term strategies for copper and nickel pollution in South San Francisco Bay.

To foster such an approach, the Bay Area Clean Water Agencies, the Bay Area Stormwater Management Agencies Association, and the San Francisco Bay Regional Water Quality Control Board signed a Memorandum of Understanding in September 2001 establishing the Clean Estuary Partnership (CEP). The mission of the CEP is to use sound science, adaptive management, and public collaboration to develop and implement technically valid and cost-effective strategies (including TMDLs) that result in identifiable, sustainable water quality improvements for San Francisco Bay. To achieve the mission of the CEP, this multi-year plan (MYP) presents a set of goals, the regulatory framework under which these goals must be achieved, an overall schedule and set of activities to be undertaken. Specific tasks and milestones will be identified in annual work plans that will be developed to implement the MYP.

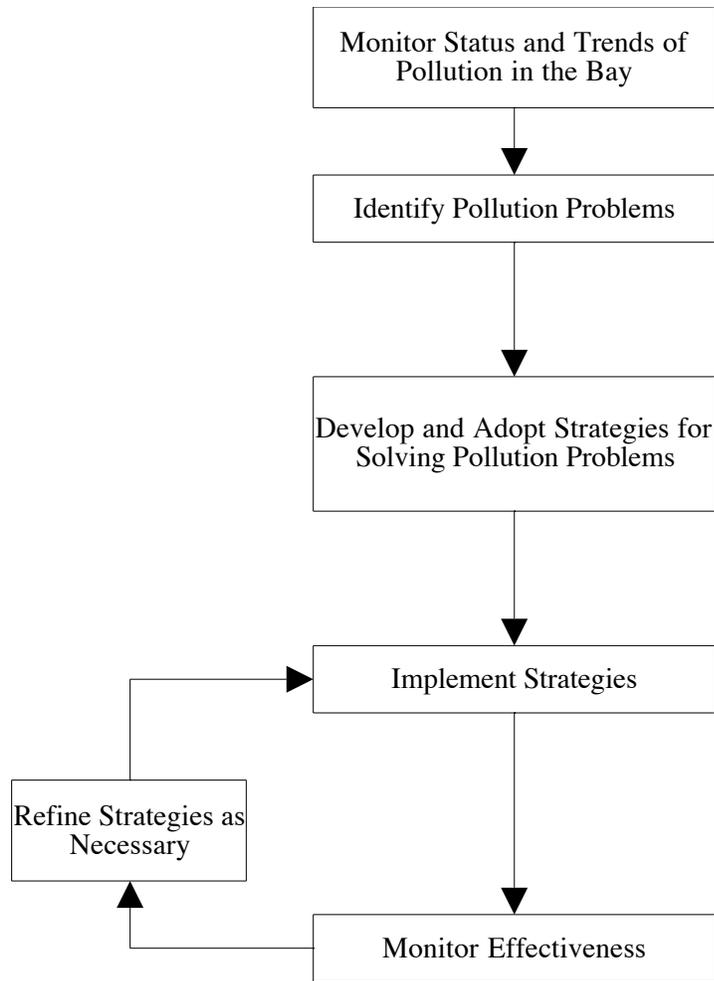


Figure 1: A simple model of the approach to solving pollution problems in San Francisco Bay

Goals and Process

The mission of the Clean Estuary Partnership (CEP) is to use sound science, adaptive management, and public collaboration to develop and implement technically valid and cost-effective strategies including TMDLs that result in identifiable, sustainable water quality improvements for San Francisco Bay. Reliance on sound science, adaptive management, and public collaboration will encourage the development of strategies that have considerable credibility and legitimacy. To develop strategies with these characteristics, the CEP will develop and maintain *conceptual models* for each pollutant of concern. Conceptual models are an organized presentation (often in diagrammatic form) of our existing knowledge of pollutant sources, pathways of pollution through the environment, and the physical and biological processes in the ecosystem that produce impairments and mediate the response to management actions. Conceptual models are an

essential tool for developing strategies based upon “sound science,” as preparing these models forces scientists from varying disciplines to work together to prepare an overall ecosystem description, thereby clarifying key scientific uncertainties to be addressed by technical studies.¹

Preparing meaningful conceptual models also requires that scientists present their knowledge in a format that is understandable to nonscientists. Making scientific information available in this manner, and providing a public process for review and revision of the models, is a key method by which the CEP will foster the collaboration needed to generate a general understanding and agreement about the scientific basis for regulatory action. This agreement and understanding is a prerequisite for successful implementation.

Examining the conceptual models in a public process will also clarify important uncertainties that must be addressed to reduce the risks of investing resources to implement strategies that do not solve the problems. Through the CEP, diverse organizations can work together to design and conduct the technical studies needed to address these uncertainties. The results of these studies can be used to revise the science-based conceptual models, and subsequently the strategies for attaining water quality standards based upon these models. This is the process of adaptive management.

CEP Goals

In order to achieve its mission, the MYP for the CEP will pursue five goals. Each goal is presented below with a brief description of the rationale for its adoption.

1. Establish a transparent public process to promote construction collaboration. A “transparent” (easily understood and accessible) public process is critical if the CEP is going to serve as a forum for collaboration among stakeholders. This process will be established and maintained through the creation and staffing of committees to facilitate stakeholder communication, the operation of a web site with a user-maintained distribution service and project information archive, and support of a technical representative from the environmental protection and environmental justice communities.

2. Assist the State of California identify and adopt long-term, science-based strategies (including TMDLs) that provide a reasonable assurance of attaining water quality standards. Establishing a strategy for eliminating impairments is a legal mandate and must be accomplished in an expeditious fashion while recognizing scientific uncertainty, and California law requires that such a regulatory strategy include an implementation plan. The CEP will facilitate this process by providing the technical forum and process to (1) summarize the existing scientific evidence for impairments, (2)

¹ The importance of a strong conceptual model (or “conceptual foundation”) in public science programs was recently stressed by the National Academy of Sciences in two recent reports (National Research Council, 2001. *Assessing the TMDL Approach to Water Quality Management*; National Research Council, 2002. *A Century of Ecosystem Science: Planning Long-term Research in the Gulf of Alaska*. National Academy Press, Washington, D.C.)

to identify or assemble conceptual models that explain the source of the impairment and are consistent with available scientific data and theory, and (3) assist the State design pilot and special studies to test strategies prior to full-scale implementation, and help establish mechanisms to refine attainment targets as uncertainties are reduced. The current list of pollutants for which the CEP will identify or develop conceptual models is mercury, PCBs, diazinon/toxicity, legacy pesticides, copper, nickel, selenium, and dioxins/furans.

3. Reduce uncertainties and verify assumptions as part of implementing the strategies. Science-based strategies maintain and strengthen their credibility and effectiveness through continued reassessment and refinement of the conceptual models upon which they are based. Using local and national peer reviewers, the CEP will identify key assumptions and important uncertainties that should be studied as part of adaptive implementation of TMDLs for San Francisco Bay. The CEP will provide a forum for the collaborative design of studies to test assumptions and reduce uncertainties. The results of these studies can be used to revise the science-based conceptual models, and subsequently the strategies for attaining water quality standards based upon these models.

4. Identify funding partners for strategy implementation. It is possible that full-scale implementation of some actions, particularly for nonpoint sources such as urban runoff or drainage from inactive mines, could require continued expenditure of resources for a long-term period. The resource limitations of local governments, due to factors such as the limitations on fee increases due to Proposition 218, increasing State-mandated fees, and decreasing State support for other local government programs, must be considered when designing long-term strategies to attain water quality standards. Achieving water quality standards for a waterbody as large as San Francisco Bay is a goal of statewide and national significance, and funding partnerships among local, State, and Federal governments, in addition to NPDES permittees, should be explored in an effort to make full-scale implementation more feasible.

5. Prepare publicly-accessible explanations of impairments and strategies. The successful adoption and implementation of strategies to attain water quality standards requires the support not only of technical professionals representing key stakeholders, but also a broader audience represented by elected and appointed officials, members of the media, and interested members of the public. The CEP must therefore maintain a directed program of outreach to these audiences that describes the impairments and strategies in concise, nontechnical language. Outreach materials (fact sheets, web pages, briefings) will be based upon the conceptual models.

Regulatory Framework

Regulatory agencies have been working for many years to develop long-term strategies to address the remaining water quality problems in San Francisco Bay. Most recently, these efforts have focused upon implementation of the provisions of the Clean Water Act (§303(d)(1)(c)) requiring the development of Total Maximum Daily Loads (TMDLs).

This means that the CEP’s MYP cannot be developed and implemented on its own, but rather must be integrated into the existing public process for developing and adopting strategies for attaining water quality standards.

Existing law and policy guide selection of alternate strategies depending upon the nature of the problem (Table 1). These strategies include developing TMDLs, developing “site-specific objectives” (SSOs) based upon local research, considering new data to conclude that pollutants are no longer causing problems (“de-listing”), or preparing a “use attainability analysis” to demonstrate that it is not feasible to meet current targets. The process of strategy selection and adoption is presented in basic form in Table 1. Each strategy involves consideration of available data and conditions to justify strategy selection, development of associated technical documentation, and identification of the appropriate action to amend public policy. Often, this involves development and adoption of an amendment to the appropriate Basin Plan.

Available Water Quality Attainment Strategy	Conditions of Water Body for Application of Strategy	Requirements
Develop and Implement TMDL	Beneficial use not fully protected, implementing a strategy to fully protect beneficial use feasible	Preliminary & final TMDL project reports, basin plan amendment
Adopt site specific objectives (SSOs)	Beneficial use protected, water quality objectives exceeded	Impairment assessment report, SSO report, action (non-degradation) plan, Basin Plan amendment
Remove pollutant from 303d list (“de-list”)	Beneficial use protected, Water quality objectives attained	Supporting data submitted through 303(d) listing process, 303(d) listing report, approval of Regional Board recommendation by State Board and US EPA.
Remove beneficial use	Beneficial use not protected, Implementing a strategy to fully protect beneficial use infeasible	Use attainability assessment report (scope and content not well defined at present), Basin Plan amendment

Table 1: Available strategies for attaining water quality standards, and the conditions under which they might be utilized. Attainment of beneficial uses is often determined by comparison of pollutant concentrations to numeric water quality objectives, although certain narrative standards are also utilized.

The State has adopted SSOs for copper and nickel for the Bay south of the Dumbarton Bridge, and the Bay was recently de-listed for copper and nickel north of the Dumbarton Bridge. The State is currently planning to develop TMDLs for San Francisco Bay for the following pollutants: mercury, PCBs, diazinon/toxicity in San Francisco Bay (with a related TMDL for the same pollutants in urban creeks), organochlorine (or “legacy”) pesticides, and selenium.² There are currently no plans for conducting use attainability analyses for San Francisco Bay. A TMDL may also be developed for dioxin/furans.

² The Regional Board is also developing TMDLs for sediment, nutrients, and pathogens in certain creeks and Tomales Bay, but these problems are outside of the scope of the CEP.

The State of California has recently published draft guidance to assist with development and implementation of TMDLs.³ This document (which is a draft subject to revision) identifies eight phases for the development and implementation of TMDLs in California (column 1 of Table 2). Particular products are envisioned from each step of the TMDL process (column 2 of Table 2). These include a Project Plan, a Preliminary TMDL Project Report, a Final TMDL Project Report (that includes the first load and wasteload allocations), and the Basin Plan amendment (with its associated staff report). The first two products present a description of the problem, its causes, and a strategy for solving the problem. The latter step is the formal process of adopting the strategy as public policy, and must satisfy the requirements of the California Environmental Quality Act and the California Office of Administrative Law, and be approved by the U.S. Environmental Protection Agency.⁴

State TMDL Project Phase	TMDL Product	CEP Project Phase and activities
Project Definition	Project Definition	Projection Definition/Planning Develop/refine conceptual models Conduct impairment assessments Manage peer review Facilitate stakeholder participation
Project Planning	Project Plan	
Data Collection	Data/technical reports	Data Collection/Analysis Scientific projects to address uncertainties and identify implementation options Manage peer review Facilitate stakeholder participation
Project Analyses	Preliminary Project Report	
Regulatory Action Selection	Final Project Report	Regulatory Action and Process Technical support for preparation of Basin Plan Amendment Facilitate stakeholder participation and outreach
Regulatory Process	Basin Plan Amendment	
Approval	TMDL approved by Regional Board, State Board, Office of Administrative Law, US EPA	Adaptive Implementation Undertake studies to reduce uncertainties and verify assumptions Coordinate pilot implementation projects Evaluate pilot project performance Conduct outreach and education Seek funding partners for implementation
Implementation	Adaptive implementation process	

Table 2: Proposed State TMDL Process and Corresponding CEP Project Tasks. State TMDL Project Phase from draft State TMDL guidance document (*A Process for Addressing Impaired Waters in California*, July 2, 2003 — this is a draft document that is subject to revision).

³ As of August, 2003, the draft guidance (subject to revision) could be found at www.swrcb.ca.gov/tmdl/docs/impaired_waters_guidance0703.pdf

⁴ Basin Plan amendments are prepared according to a process (considered functionally equivalent to the preparation of an Environmental Impact Report) that includes (1) evaluation of alternatives, (2) consideration of economics and attainability, (3) assessment of consistency with antidegradation policies, and (4) peer review.

The CEP multi-year plan has been designed to work in conjunction with the State’s TMDL process. The CEP will organize its activities in four phases: Project Definition/Planning, Analysis and Reporting, Regulatory Action and Process, and Adaptive Implementation (column 3, Table 2).⁵ Through the CEP the State obtains opportunities early on to work with stakeholders to develop implementation concepts, refine key uncertainties, and obtain peer review. This process will result in greater consensus regarding the technical foundation for regulatory action, and reduces the likelihood of public controversy (including litigation) when the Basin Plan Amendment is proposed for adoption.

The CEP process will be implemented through its committees and workgroups (Figure 2). The CEP is governed by an Executive Management Board (EMB) comprised of representatives of the organizations that have signed the Memorandum of Understanding (San Francisco Bay Regional Water Quality Control Board, Bay Area Clean Water Agencies, Bay Area Stormwater Management Agencies Association). Three standing committees (Technical, Administrative, and Participation and Outreach) report to the EMB. Dr. Andrew Gunther of Applied Marine Sciences, Inc., serves as the Program Coordinator.⁶ Operating policies and procedures for the CEP, and other information about the program, are available on the CEP web site at www.cleanestuary.org. All CEP meetings are open to the public.

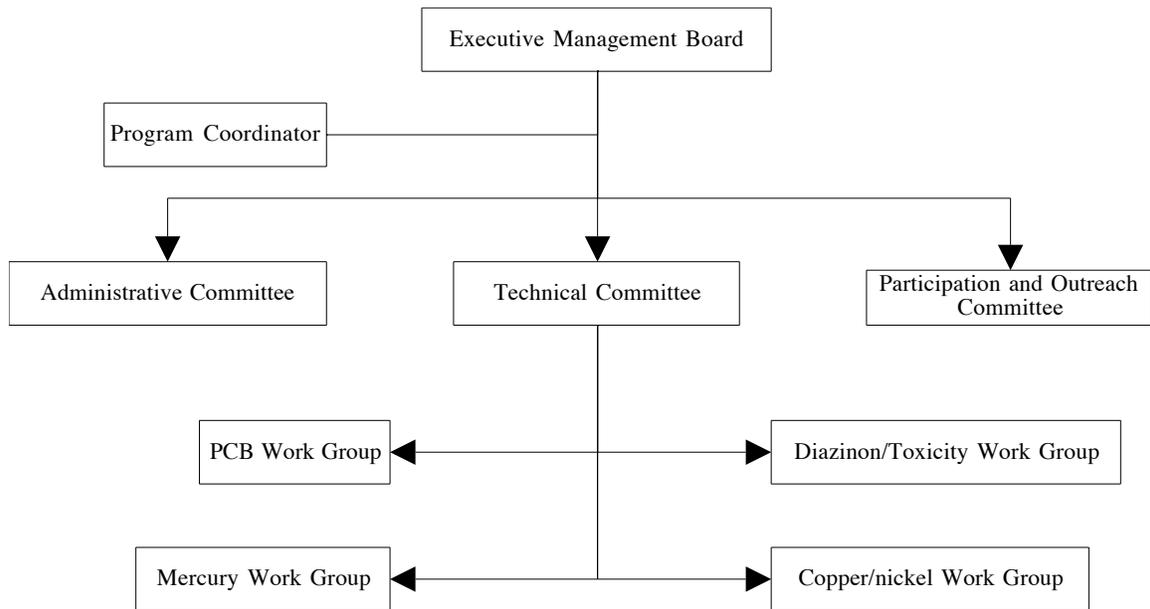


Figure 2: Organization of the Clean Estuary Partnership

⁵ Since several TMDL and SSO processes were already underway when the CEP was established, the integration of the CEP into these TMDLs will not always be precisely as described.

⁶ The Executive Management Board conducted a competitive solicitation in late 2001 and selected Applied Marine Sciences (www.amarine.com) to provide these services.

Each CEP partner has recruited its representatives with the greatest technical expertise regarding a particular pollutant to serve on the appropriate technical workgroup. The workgroups are responsible for identifying important management questions and technical uncertainties, developing project concepts, providing detailed review of draft documents, and considering the need to peer review reports. The workgroups provide recommendations to the Technical Committee for action.

CEP Activities and Schedule

This section presents an implementation schedule and a general description of the technical program component of the CEP. The schedule is organized by pollutant, to correspond to the regulatory process based on the 303(d) list. For each pollutant, CEP activities are organized using the four CEP phases (Project Definition/Planning, Analysis and Reporting, Regulatory Action and Process, and Adaptive Implementation) across fiscal years. The final part of this section describes the other CEP program components (coordination, administration, participation and outreach, and information management, and this is followed by an estimated multi-year budget. Detailed descriptions of CEP tasks will be found in annual work plans.

For planning purposes, the CEP has established a multi-year program schedule for each pollutant (Figure 3). This schedule presents the best estimate at present for the process of developing and adopting water quality attainment strategies for key pollutants in San Francisco Bay. The CEP plans to update this schedule on a regular basis.

There are many factors that could act to change the schedule in Figure 3. Some of these factors, such as the efficiency with which the CEP process operates to develop useful information and integrate it into the TMDL process, are unknown but can be influenced by CEP participants and other stakeholders. Other factors, such as resource limitations of state and local government agencies, cannot be influenced by the CEP. The following discussion presents, for each pollutant, a brief summary of the impairment, the status of the project (TMDL or other), and a short description of the multi-year plan for that project. Activities are also summarized for each pollutant in a table by fiscal year. The discussion begins with mercury, as this is the first pollutant for which the Regional Board is developing a TMDL.

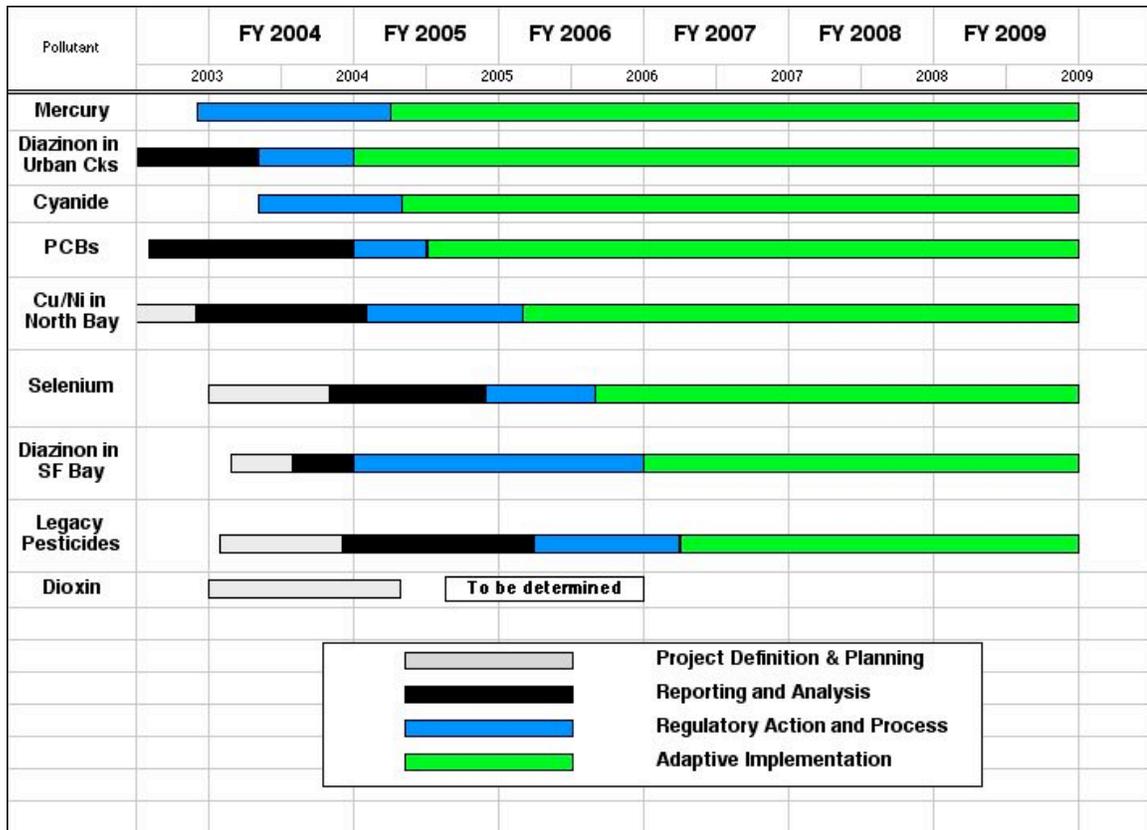


Figure 3: Multi-year schedule for implementation of CEP.

Mercury

Nature of the Problem. San Francisco Bay is impaired by mercury because fish tissue collected from the Bay often contains relatively high concentrations of mercury. The California Office of Environmental Health Hazard Assessment has issued fish consumption advisories warning people to limit their consumption of San Francisco Bay fish. In addition, studies have shown that birds consuming fish and other organisms from San Francisco Bay pass mercury to their eggs, potentially contributing to reproductive failures. Sources of mercury include runoff from inactive mines, urban runoff, wastewater discharges, atmospheric deposition, and resuspension of historic deposits of mercury-laden sediment already in San Francisco Bay.

Status of the Mercury TMDL. The Regional Board issued the Preliminary Mercury TMDL Project Report in June 2000, prior to the formation of the CEP. The Final Mercury TMDL Project Report was released in June 2003 (The CEP conducted two different projects in FY02-03 support the development of the Final Mercury TMDL Project Report by preparing technical materials to support the source assessment, developing concepts for implementation, and preparing a draft conceptual model).

Future CEP Activities. The release of the Final TMDL Project Report initiates the CEP phase of Regulatory Action and Process (Table 3). As part of this process the CEP Participation and Outreach Program will be working to facilitate stakeholder interaction and communication with the Regional Board as the Basin Plan Amendment and Staff Report are prepared. The CEP will also make resources available to assist the Regional Board with technical analyses to support development and adoption of the Basin Plan. The CEP will also support the preparation public outreach materials (fact sheets, press releases, etc...) if useful to support development and adoption of the TMDL.

The CEP has also initiated a project to reduce a key uncertainty identified in the Preliminary TMDL Project Report for Mercury, which is expected to run through FY05-06. This project is using state-of-the-art methods to assess the loads of mercury and other pollutants entering the Estuary from the Guadalupe River watershed, which is an important source of mercury to the Bay as it contains the historic New Almaden mining district. Data is planned for collection during FY02-03, FY03-04, and FY05-06, with final data analysis and reporting FY06-07.

The CEP will, using peer review comments and input from stakeholders, refine the conceptual model contained in the Final TMDL Project Report and publish the model on the CEP web site. The conceptual model will be used to develop a prioritized list of uncertainties for special studies. Examples of possible special studies to reduce uncertainties include (1) assessing mercury methylation in shallow receiving waters (and investigating if recycled water can be used to manage methylation in sloughs and marshes), and (2) feasibility of urban runoff load reductions (e.g., what are the costs and expected benefits for different approaches to reducing mercury loads in urban runoff?), and (3) can wetlands be restored/designed in a way to minimize the methylation of mercury? The Technical Committee will work with the Participation and Outreach Committee to develop outreach materials related to the mercury TMDL.

It is anticipated that the studies needed to reduce uncertainties will exceed CEP resources. Therefore, as part of prioritizing the list of uncertainties CEP staff will also need to identify other programs that can form funding partnerships with the CEP. The task of establishing funding partnerships is discussed below under the section describing ongoing CEP tasks.

Fiscal Year	Regulatory Action & Process	Adaptive Implementation
FY03-04	Facilitate stakeholder input to regulatory process; provide technical analyses for Basin Plan	Guadalupe river loading assessment Refine conceptual model Prepare scopes for special studies
FY04-05	Facilitate stakeholder input to regulatory process; provide technical analyses for Basin Plan	Guadalupe river loading assessment Seek funding partnerships Begin study implementation
FY05-06	NA, phase complete	Implement special studies
FY06-07	NA, phase complete	Implement special studies
FY07-08	NA, phase complete	Complete special studies, revise conceptual model
FY08-09	NA, phase complete	Assist Regional Board with review mercury TMDL as part of adaptive implementation cycle

Table 3: Summary of CEP Activities Related to the Mercury TMDL.

PCBs

Nature of the problem. In 1994, the State issued a sport fish consumption advisory cautioning people to limit their consumption of fish caught in San Francisco Bay. This advisory is due in part to concerns about high concentrations of polychlorinated biphenyls (PCBs) found in sampled fish. PCBs were manufactured in the United States and used widely from the late 1920s through the 1970s. They are of particular concern because they are toxic, persist in the environment, and accumulate in the tissue of fish, wildlife and humans.

Addressing the PCBs problem illustrates the challenges of dealing with "legacy" pollutants. A significant proportion of PCBs pollution in San Francisco Bay happened decades ago, before the potential health effects of PCBs were widely known. Because PCBs degrade very slowly in the environment, their toxic effects are still with us today, and removing large quantities of PCB-contaminated sediment from San Francisco Bay for disposal in hazardous waste facilities will be very costly.

Status of the PCB TMDL. The Preliminary PCB TMDL Project Report is expected to be issued by the Regional Board in August 2003. The schedule (Figure 3) assumes the Final TMDL Project report will be completed at the end of FY03-04 and the basin plan amendment adopted in the beginning by December 31, 2004, as the Regional Board has indicated this is their planned schedule.

Fiscal Year	Reporting and Analysis	Regulatory Action & Process	Adaptive Implementation
FY03-04	Assess nearshore PCB sediment concentrations Peer review of available modeling approaches Refine conceptual model Refine implementation scheme Urban runoff control assessment	NA	NA
FY04-05	Complete nearshore assessment Complete implementation scheme Begin numerical model revision Complete urban runoff assessment	Facilitate stakeholder input to regulatory process	
FY05-06	Complete numerical model	Facilitate stakeholder input to regulatory process	Identify key uncertainties and special studies
FY06-07	NA	NA	Conduct special studies as necessary
FY07-08	NA	NA	
FY08-09	NA	NA	

Table 4: CEP activities associated with the PCB TMDL.

Future CEP Activities. Initially, the CEP will assist the Regional Board complete the Reporting and Analysis phase of TMDL development. Projects to be conducted during this period include (1) the design and implementation of projects to characterize nearshore sediment concentration of PCBs as part of developing implementation concepts for inclusion in the Final PCB TMDL Project Report, (2) facilitating expert review of existing conceptual and numerical models, including clarification of how these tools can best be used to complete the TMDL and support adaptive implementation, (3) an assessment of the options and expected benefits from implementation actions to control sediment associated contaminants in stormwater, and (4) assistance with technical issues related to preparation of the implementation plan that will be part of the Final PCB TMDL Project Report.

Once issuance of the Final TMDL Project Report initiates the CEP phase of Regulatory Action and Process, the CEP Participation and Outreach Program will be working to facilitate stakeholder interaction and communication with the Regional Board as the Basin Plan Amendment and Staff Report are prepared. The CEP will also make resources available to assist the Regional Board with technical analyses to support development and adoption of the Basin Plan. The CEP will also support the preparation public outreach materials (fact sheets, press releases, etc...) if useful to support development and adoption of the TMDL.

The CEP will also actively support the identification of key uncertainties that can be addressed through technical studies. These studies could include scientific assessments of the causes of impairment and technical projects examining promising remediation techniques. It is anticipated that the CEP process will be used to develop scopes of work for these special studies that could be implemented either with CEP funds or through partnership with other funding agencies.

Diazinon and Pesticide-related Toxicity in Urban Creeks

Nature of the problem. San Francisco Bay Area urban creeks exceed water quality standards for aquatic toxicity, primarily due to runoff of the common insecticide diazinon. Diazinon is a common insecticide used throughout the Bay Area to manage a broad spectrum of pests, such as ants and grubs. Although only a small fraction of the diazinon applied outdoors reaches surface water, that fraction is sufficient to result in diazinon concentrations that are toxic to test organisms.

Status of the Diazinon and Pesticide-related TMDL. The Regional Board issued the Preliminary Project Report for Diazinon and Pesticide-related Toxicity in Urban Creeks in September 2002. The Final TMDL project report is expected to be released in the fall of 2003 (Figure 3), with a projected date of June 2004 for adoption of the basin plan amendment. This schedule is more aggressive than that for PCBs and mercury, and reflects the fact that the major regulatory action to reduce loads (the banning of diazinon for many uses by the USEPA) has already occurred. Thus, implementation actions will mainly involve monitoring the decline of diazinon concentrations and determining of aquatic toxicity declines as well.

Future CEP Activities. The CEP has no plans for activities to assist the Regional Board complete the Final TMDL Project Report. Once the Final TMDL Project Report initiates the CEP phase of Regulatory Action and Process, the CEP Participation and Outreach Program will be working to facilitate stakeholder interaction and communication with the Regional Board as the Basin Plan Amendment and Staff Report are prepared. The CEP will also make resources available to assist the Regional Board with technical analyses to support development and adoption of the Basin Plan

Since monitoring is going to be a key component of implementing the TMDL for diazinon in urban creeks, the CEP will develop a plan for region-wide monitoring of diazinon and pesticide-related toxicity in urban creeks. It is also anticipated that the CEP will assist the Regional Board and BASMAA implement this plan after the TMDL is adopted, and analyze/peer review the results. These data would then be used to evaluate the status of the impairment as part of the adaptive implementation of the TMDL.

Fiscal Year	Reporting and Analysis	Regulatory Action & Process	Adaptive Implementation
FY03-04	Preliminary design region-wide monitoring program	Facilitate stakeholder input to regulatory process	NA
FY04-05	NA	Facilitate stakeholder input to regulatory process	Finalize design of monitoring program
FY05-06	NA		Assist with outreach materials Assist with implementation of monitoring program
FY06-07	NA	NA	NA
FY07-08	NA	NA	NA
FY08-09	NA	NA	Assist with review of monitoring data Refine conceptual model if necessary

Table 5: Activities to be conducted by the CEP related to the Diazinon and Pesticide-related Toxicity in Urban Creeks TMDL.

Copper/Nickel

Nature of the Problem. San Francisco Bay was placed on the 1998 303(d) list for copper and nickel because ambient concentrations of these metals exceeded existing water quality standards established to ensure protection of sensitive species of aquatic life. The concern was that observed levels of copper and nickel in San Francisco produce toxicity to Bay organisms and therefore adversely affected the Bay ecosystem and associated beneficial uses. Sources of copper and nickel to San Francisco Bay include in-Bay sediment sources, urban runoff, and treated wastewater discharges.

Status of the Copper and Nickel Strategy. Investigations of copper and nickel toxicity in San Francisco Bay have indicated that adopted water quality standards overpredict the toxic effects of these metals in the estuary. Given that the beneficial use is currently protected (e.g., no toxicity apparent) at copper and nickel concentrations slightly above existing objectives, the State has selected the development of site-specific objectives as the appropriate strategy to attain water quality standards for these pollutants in San Francisco Bay (Table 1). This process is being completed in two phases for San Francisco Bay, with the first phase addressing the Bay south of the Dumbarton Bridge, with the second phase being for the rest of the Bay.

Following scientific procedures established by the USEPA, site-specific water quality objectives for copper and nickel have been derived that reflect the actual effects of these trace elements in the South Bay. The Regional Board and State Board have adopted these site-specific objectives south of the Dumbarton Bridge, conditioned upon the continuance of a baseline of pollution prevention activities by municipalities and industries, implementation of a continuous monitoring program to trigger additional control measures if ambient concentrations increase, and performance of studies to

resolve uncertainties regarding toxicity of copper to phytoplankton and the accumulation of these metals in Bay sediments.

Investigations north of the Dumbarton Bridge have largely confirmed that copper and nickel toxicity is not occurring at observed levels in the remainder of the Bay. These investigations have also indicated that, with the exception of a localized area at the mouth of the Petaluma River, the concentrations of copper and nickel in the waters of the Estuary do not currently exceed water quality objectives. Consequently, the Regional Board has recommended that the Estuary, with the exception of the mouth of the Petaluma River, not continue to be listed as impaired for copper and nickel toxicity (the strategy of “de-listing” found in Table 1). However, it is also expected that Site-Specific Objectives similar to those adopted in the South Bay will be adopted for the remainder of the Bay, as these objectives are supported by available scientific information.

Future CEP Activities. The CEP is actively assisting the Regional Board in developing Site Specific Objectives for copper and nickel in San Francisco Bay north of the Dumbarton Bridge, including the preparation of a Impairment Assessment Report, the derivation of SSOs and a short report justifying the need for their adoption (Table 6). Once these documents are complete, the CEP Participation and Outreach Program will be working to facilitate stakeholder interaction and communication with the Regional Board as the Basin Plan Amendment and Staff Report are prepared. The CEP will also make resources available to assist the Regional Board with technical analyses to support development and adoption of the Basin Plan.

Fiscal Year	Reporting and Analysis	Regulatory Action & Process	Adaptive Implementation
FY03-04	Focused Impairment Assessment SSO Derivation	Justification for inclusion of SSOs in Basin Plan	NA
FY04-05	NA	Facilitate stakeholder input to regulatory process	NA
FY05-06	NA	NA	Assist implementation of action plans and assessment of monitoring data
FY06-07	NA	NA	
FY07-08	NA	NA	
FY08-09	NA	NA	

Table 6: Summary of CEP Tasks Related to the Development of Site Specific Objectives for Copper and Nickel North of the Dumbarton Bridge

Legacy Pesticides

Nature of the problem. Legacy pesticides refer to the organochlorine pesticides DDT, dieldrin, and chlordane, that (in most applications) are no longer legal to use. Like PCBs, these substances are resistant to degradation and accumulate in biota, and the concentration of these substances in some sport fish samples from San Francisco Bay exceed human health screening values. The Bay was listed as impaired for these

substances in 1998 by the USEPA due to concern about human health impacts from eating contaminated fish from the Bay.

Status of the Legacy Pesticides TMDL. There has been no work completed on the Legacy Pesticides TMDL as of June 2003. The Regional Board has scheduled the completion of the Preliminary TMDL Project Report for Legacy Pesticides for June 2005. The Final TMDL Project Report is scheduled for completion in December 2006. The CEP schedule (Figure 3) moves this process somewhat, with the Final TMDL Project Report being issued in September 2005. This more accelerated schedule assumes that there will not be a need to gather much additional field data for this TMDL, given the large existing database collected by the Regional Monitoring Program and the applicability of modeling approaches developed for PCBs. In addition, it seems unlikely that there will be many implementation actions to negotiate as these pesticides have been banned for many years and concentrations in fish appear to be declining.

Future CEP Activities. Unlike the previous projects described above (mercury, PCBs, diazinon in urban creeks, copper/nickel), the CEP will be involved in the Legacy Pesticides TMDL from the outset of the project. The CEP will prepare a Conceptual Model/Impairment Assessment (CM/IA) report that will be used by the Regional Board to refine the problem definition and develop a project plan. Based upon peer review of the CM/IA report, the CEP will assist the Regional Board during the Analysis and Reporting phase by conducting additional data gathering required to reduce uncertainties as part of completing the TMDL project reports.

Once the Final TMDL Project Report is complete, the CEP Participation and Outreach Program will be working to facilitate stakeholder interaction and communication with the Regional Board as the Basin Plan Amendment and Staff Report are prepared. If necessary and feasible, the CEP will also make resources available to assist the Regional Board with technical analyses to support development and adoption of the Basin Plan. It is anticipated that adaptive implementation will rely upon monitoring data provided by the Regional Monitoring Program, and that the CEP might assist the Regional Board evaluate the status of the impairment in the future (beyond the time period of the present MYP).

Fiscal Year	Project Definition and Planning	Reporting and Analysis	Regulatory Action & Process	Adaptive Implementation
FY03-04	Conceptual Model/ Impairment Assessment Report	NA	NA	NA
FY04-05	NA	Address technical uncertainties	NA	NA
FY05-06	NA	Complete technical studies	Facilitate stakeholder input to regulatory process	NA
FY06-07	NA	NA	NA	RMP monitoring
FY07-08	NA	NA	NA	
FY08-09	NA	NA	NA	

Table 6: Summary of Tasks CEP Related to the Legacy Pesticides TMDL

Diazinon/Toxicity in San Francisco Bay

Nature of the Problem. San Francisco Bay was listed as impaired for diazinon in 1998 due concern that toxicity observed in the Bay was caused by diazinon draining from agricultural and urban lands in runoff. Pulses of diazinon have been documented traveling down the San Joaquin river and entering the estuary, and episodes of toxicity in the north Bay (Napa east to Antioch) and in sloughs draining urbanized watersheds have been documented by the Regional Monitoring Program. The listing recognizes that other pesticides could be contributing to the toxicity.

Status of the TMDL. There has been no work completed on the TMDL for Diazinon/toxicity in San Francisco Bay as of June 2003. The Regional Board has scheduled the completion of the Preliminary TMDL Project Report for Diazinon/toxicity in San Francisco Bay for June 2005. The Final TMDL Project Report is scheduled for completion in June 2006. The CEP schedule (Figure 3) moves this process somewhat, with the Reporting and Analysis phase being completed in September 2005. This more accelerated schedule assumes that there will not be a need to gather much additional field data for this project, given the large existing database collected by the Regional Monitoring Program. Given that recent data show significant declines in diazinon concentrations in the Bay and the cessation of episodes of toxicity, the CEP schedule is consistent with a project that will be a de-listing effort rather than a TMDL.

Future CEP Activities. As with the Legacy Pesticides TMDL, the CEP will be involved in the project regarding Diazinon/Toxicity in San Francisco Bay from the outset of the project. The CEP will prepare a Conceptual Model/Impairment Assessment (CM/IA) report that will be used by the Regional Board to refine the problem definition and develop a project plan. Based upon peer review of the CM/IA report, the CEP will assist the Regional Board during the Analysis and Reporting phase by conducting additional data gathering required to reduce uncertainties as part of completing the project reports. As was indicated above, the project to be designed may not be a TMDL, but rather a de-listing of the Bay, and the CEP could assist the Regional Board compile the information necessary to request that the State Board remove the listing.

Once Regulatory Action and Process phase has begun, the CEP Participation and Outreach Program will be working to facilitate stakeholder interaction and communication with the Regional Board as the process moves forward. If necessary and feasible, the CEP will also make resources available to assist the Regional Board with technical analyses to support the regulatory action. It is anticipated that adaptive implementation will rely upon monitoring data provided by the Regional Monitoring Program, and that the CEP might assist the Regional Board evaluate the status of the impairment in the future (beyond the time period of the present MYP).

Fiscal Year	Project Definition and Planning	Reporting and Analysis	Regulatory Action & Process	Adaptive Implementation
FY03-04	Conceptual Model/ Impairment Assessment Report	NA	NA	NA
FY04-05	NA	Address technical uncertainties, compile additional information	NA	NA
FY05-06	NA	NA	Facilitate stakeholder input to regulatory process	NA
FY06-07	NA	NA	NA	RMP Monitoring
FY07-08	NA	NA	NA	
FY08-09	NA	NA	NA	

Table 7: Summary of Activities of the CEP Related to the listing of San Francisco Bay for Diazinon/Toxicity.

Selenium

Nature of the Problem. The Bay is listed for selenium because of potential reproductive impacts to diving ducks and other wildlife in the estuary. In addition, the Office of Environmental Health Hazard Assessment issued a human health advisory regarding consumption of two species of ducks by hunters. The Department of Fish and Game measured selenium in scoter and scaup at concentrations above known to cause reproductive harm in other bird species. The accumulation of selenium in fish and birds appears to have been exacerbated by the introduction of the Asian Clam (*Potamocorbula amurensis*), as its prodigious filter-feeding and large populations have moved considerable mass of selenium into the benthic food web and thus to diving ducks and large fishes such as sturgeon.

Status of the TMDL. There has been no work completed on the TMDL for selenium in San Francisco Bay as of June 2003. The Regional Board has scheduled the completion of the Preliminary TMDL Project Report for Selenium in San Francisco Bay for June 2008. The Final TMDL Project Report is scheduled for completion in June 2009. The CEP schedule (Figure 3) moves this process significantly, with the Reporting and Analysis phase being completed in June 2005. This more accelerated schedule assumes that there will not be a need to gather much additional field data for this project, given the large existing database collected by the Regional Monitoring Program and other agencies. In addition, the Regional Board has already implemented a program to control selenium discharges from refineries, one of two the major sources of selenium.

Future CEP Activities. The CEP will be involved in the selenium TMDL from the outset of the project. The CEP will prepare a Conceptual Model/Impairment Assessment (CM/IA) report that will be used by the Regional Board to refine the problem definition and develop a project plan. Based upon peer review of the CM/IA report, the CEP will assist the Regional Board during the Analysis and Reporting phase by conducting any

additional data gathering required to reduce uncertainties as part of completing the TMDL project reports.

Once the Final TMDL Project Report is complete, the CEP Participation and Outreach Program will be working to facilitate stakeholder interaction and communication with the Regional Board as the Basin Plan Amendment and Staff Report are prepared. If necessary and feasible, the CEP will also make resources available to assist the Regional Board with technical analyses to support development and adoption of the Basin Plan. It is anticipated that adaptive implementation will rely upon monitoring data provided by the Regional Monitoring Program, and that the CEP might assist the Regional Board evaluate the status of the impairment in the future (beyond the time period of the present MYP).

Fiscal Year	Project Definition and Planning	Reporting and Analysis	Regulatory Action & Process	Adaptive Implementation
FY03-04	Conceptual Model/ Impairment Assessment Report	NA	NA	NA
FY04-05	NA	Address technical uncertainties, compile additional information	NA	NA
FY05-06	NA	NA	Facilitate stakeholder input to regulatory process	NA
FY06-07	NA	NA	NA	RMP Monitoring
FY07-08	NA	NA	NA	
FY08-09	NA	NA	NA	

Table 8: Summary of Activities of the CEP Related to the listing of San Francisco Bay for selenium.

Dioxin/furans

Nature of the Problem. In 1998, the US EPA added “dioxin-like compounds” to California’s 303(d) list due to EPA’s analysis of available data that indicated potential human health risk from eating fish contaminated with these pollutants. EPA concluded that the fish consumption beneficial use of San Francisco Bay is being impaired, and that narrative standards which prohibit the discharge of toxic pollutants in amounts which adversely affect beneficial uses are not being met. Because the State had already included dioxin-like PCBs in its submittal to EPA, the practical effect of EPA’s decision was to add dioxins and furans to the list. The specific compounds included are 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD, 1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,4,6,7,8-HpCDD, and OCDD.

Status of the dioxin/furan project. The CEP schedule (Figure 3) calls for initiating the Project Definition and Planning Phase in FY03-04. Due to an expected lack of information on the abundance and distribution of these compounds in the estuary, and the

significant uncertainty regarding future regulatory action for these compounds, the future of a project for dioxins/furans is very uncertain (“to be determined” in Figure 3).

Future CEP Activities. The CEP will prepare a Conceptual Model/Impairment Assessment Report for dioxins/furans during FY03-04. This document could be used to develop a Project Plan to address the listing of dioxins/furans.

Cyanide

Nature of the Problem: The 1995 Basin Plan for San Francisco Bay contains a saltwater acute water quality objective for cyanide of 5 ug/l as a one-hour average. In 2000, the USEPA adopted federal water quality standards for inland waters and bays and estuaries of California, which included a cyanide saltwater chronic standard of 1.0 ug/l as a 4-day average. This value is being used as the basis for NPDES permitting in San Francisco Bay following the procedures set forth in the State Implementation Plan (SIP). Since the detection limit for some ambient cyanide data is equal to the 1.0 ug/l standard, the final effluent limits in some permits are based on zero dilution which cannot be achieved without significant additional treatment. This has led to widespread application for interim effluent limits and a commitment by permittees to pursue site-specific water quality objectives for cyanide in the near term.

Status of the Cyanide Strategy. The State of Washington recently adopted Site Specific Objectives for cyanide in Puget Sound based upon new toxicological work with four species of sensitive marine crabs. Because these species are representative of species in San Francisco Bay, the development of a Site Specific Objective for cyanide in San Francisco Bay using the data from the Puget Sound study has been investigated. This investigation has concluded that strong scientific evidence exists to support revision of the saltwater cyanide objectives to 2.9 ug/l chronic (4-day average) and 9.7 ug/l acute (1-hour average). Regional Board staff have reviewed the technical information developed to date and recommended adoption of similar values as site-specific saltwater objectives for cyanide in San Francisco Bay. Work has not yet commenced on preparation of the Basin Plan Amendment and associated Staff Report to implement this recommendation.

Future CEP Activities. In FY03-04 the CEP will provide support for Regional Board staff in developing CEQA-equivalent documentation and conducting necessary environmental and economic analysis in support of a Basin Plan amendment for a site-specific objective for cyanide. Once the Staff Report is released, the CEP Participation and Outreach Program will be working to facilitate stakeholder interaction and communication with the Regional Board.

Fiscal Year	Regulatory Action & Process	Adaptive Implementation
FY03-04	Provide technical support to Regional Board for Basin Plan Amendment Preparation	NA
FY04-05	Facilitate stakeholder input to regulatory process	NA
FY05-06	NA	NA
FY06-07		
FY07-08		
FY08-09		

Table 9: Summary of Activities of the CEP Related to water quality objectives for cyanide.

CEP Support and Operations

There are several activities to be undertaken by the CEP that are not specific to a particular pollutant or program phase, but instead will be pursued continuously as part of the program. These include Coordination, Participation and Outreach, Information Management, and Administration. This section describes these tasks, with frequent reference to the organizational structure of the CEP (Figure 2).

Coordination

CEP coordination involves several tasks, including managing the committee/workgroup process, developing and maintaining working relationships between the CEP and other programs, working with CEP partners and other stakeholders to address issues of concern, managing technical projects and peer review, integration of technical products into TMDLs, and preparation of annual work plans.

The Partnership is managed by a Program Coordinator who reports to an Executive Management Board (EMB) that maintains standing Committees (Technical, Administrative, and Participation and Outreach), which in FY02-03 meet monthly. For each Committee meeting, CEP staff prepare and distribute meeting agenda and planning documents, attend meetings, prepare meeting minutes and post these to the web site, and follow-up on issues raised at the meetings. The Program Coordinator also prepares monthly reports of CEP activities for the EMB.

The Program Coordinator and other CEP staff must develop and maintain working relationships with other related programs if the CEP is going to be developed and conducted in a cost-effective manner. Examples of these programs include the Regional Monitoring Program, CALFED, and other activities of CEP Partners. This task includes attendance at various inter-agency Committee meetings, and working with other stakeholders such as environmental groups or the Bay Planning Coalition.

Workplan Development. As part of the coordination task the Program Coordinator oversees the development and refinement of the MYP, and the more detailed annual work plans that describe planned CEP activities in detail for each fiscal year. Drafts of the annual work plans will be developed in conjunction with each EMB Committee, and then reviewed and approved by these committees prior to final approval by the EMB.

In the spring of each year, the Technical and Participation and Outreach Committees adopt a recommended budget identifying projects to be implemented in the coming fiscal year. Each technical project in this budget are tied closely to a prioritized set of management questions that were developed and reviewed by the Technical Committee and its workgroups. Each project is briefly described in a standard format that identifies the management question, the expected project deliverables, how those deliverables will address the management question, and an estimated budget. At this phase, the estimated budgets for projects are normally based upon professional judgment of workgroup members or CEP staff, or informal bids received from potential contractors.

The Administrative Committee integrates the Technical Committee's recommendations with those from the Participation and Outreach Committee to prepare an overall budget for adoption by the Executive Management Board. This budget presents an estimate of revenue for the fiscal year (including carryover from the previous fiscal year), and the estimated expenditures for the CEP by task in each program area (Coordination, Administration, Participation and Outreach, Technical).

While this budget describes how the EMB expects funds to be allocated, it is considered a plan and does not authorize the expenditure of funds. The Administrative Committee makes separate recommendations for each task in each program area, to authorize the expenditure of funds. In the CEP these are termed *appropriations*. Appropriations can cover the entire fiscal year for a particular task or project, a portion of the year, or only certain tasks within a project.

To appropriate funds for technical projects, the Technical Committee establishes priorities for implementation of the projects identified in the adopted technical budget. For each project, the next step is preparation of a conceptual scope of work that describes the project in some detail, including a statement of work, description of deliverables, and suggested contractors to perform the work. As appropriate, conceptual scopes of work are developed by technical work groups or CEP staff. The Technical Committee reviews conceptual scopes of work, revises them as necessary, and approves them for funding. The conceptual scope of work is then forwarded to the Administrative Committee, and it serves as the request for appropriation of funds.⁷

Prior to implementation of the project, a detailed scopes of work is prepared. This document expands on the conceptual scope as requested by the Committee, normally

⁷ For smaller and less complex technical projects, and where there is clear consensus regarding the project's purpose and importance, the Technical Committee may sometimes recommend appropriation of funds based upon the brief project description prior to completion of the conceptual scope.

including a more detailed budget and schedule of deliverables. This document is typically developed as the first task by the contractors selected to perform the project.

Management and Peer Review of Technical Projects. The purpose of this activity is to provide technical project management and peer review to ensure that CEP projects are conducted efficiently and expeditiously, produce data of the highest quality, and deliver useful information for development of TMDLs and other water quality attainment strategies. Under this task CEP staff will track progress of each technical project to ensure projects are on schedule to achieve the objectives approved by the Technical Committee and the EMB within approved budgets, retain technical experts to peer review project scopes and reports to ensure that each project is designed and implemented according to the best available information and that its results are consistent with the accepted state of knowledge in the San Francisco Estuary.

Under this task CEP staff will also organize the peer review of Final TMDL Project Reports. This will involve working with the Technical Committee to identify a list of potential peer reviewers and a set of questions for reviewers to consider when conducting their reviews.

Integration of CEP Products into the TMDL Process. Once CEP-sponsored technical studies are complete, the information produced needs to be integrated into the public process of developing TMDLs and other water quality attainment strategies. In some instances, very little effort might be needed in this regard, as the application of the results from the technical project may be unambiguous and not controversial. In other instances, however, it likely will be necessary for CEP staff to conduct additional work after the technical project is complete to integrate its results into the public process. Examples of such work might include the preparation of descriptive memos to clarify certain results for nonscientists, consultation with the Principal Investigator to obtain ancillary information of interest to certain partners, obtaining certain documentation for the Regional Board staff to include in the public record, or identifying outreach needs to be considered as tasks by the Participation and Outreach Committee.

Identify Funding Partners for Strategy Implementation. The scope and complexity of the pollution problems being addressed by the TMDL process are extensive. It is likely that full-scale implementation of some actions, particularly for nonpoint sources such as urban runoff or drainage from abandoned mines, could require continued expenditure of resources for a long-term period. In addition, certain technical uncertainties may require expensive field investigations. Under this task funding partnerships among local, State, and Federal governments, in addition to NPDES permittees, will be explored in an effort to achieve CEP objectives in as cost-effective manner as possible.

CEP staff will work to identify appropriate funding opportunities to further CEP objectives. These might take the form of grant opportunities (e.g., Proposition 50 funds), or working with organizations such as CALFED that have objectives in common with the CEP. The Program Coordinator will assist the CEP in developing relationships with

potential funders, tracking programs, developing partnerships with other organizations and submitting grants application and proposals, as necessary.

Participation and Outreach

The Participation and Outreach element of the work plan is designed to implement the CEP mission of public collaboration, and will be implemented under the auspices of the Participation and Outreach Committee of the EMB. The following tasks will be undertaken to (1) facilitate the involvement of key stakeholders in the process of strategy development, (2) prepare targeted outreach products for key stakeholders, particularly elected officials, regarding the process of TMDL development and implementation, and (3) to develop and distribute educational materials for the general public.

To this end, the CEP Participation and Outreach Committee will focus on the following activities:

Ensure participation of environmentalist technical representative in the CEP. The CEP will fund at least one technical representative per TMDL to act as a liaison to the environmental and environmental justice community. The Participation and Outreach Committee will work closely with the Technical Committee to identify the skills required and facilitate a process whereby this representative is nominated and selected by the environmental community and coordinates with this community for each TMDL.

Educate and inform key stakeholders about the CEP process. The education step will occur primarily through briefings and small focus groups to explain the purpose of the CEP and the importance of developing TMDLs in the Bay Area. In particular, the CEP could play a pivotal role in engaging cities, counties and elected officials. The Participation and Outreach Committee will identify specific organizations, associations, and officials to contact, recommend which CEP spokesperson should present, and help develop the presentation and corresponding materials, as needed.

Assist with stakeholder review of related project documents. Under this task the CEP will identify key stakeholders for participation in review of the conceptual models being developed for each pollutant. Once refined, the conceptual models will be distributed to a broader range of stakeholders to facilitate their understanding of and support for the technical analysis to be undertaken. The CEP will also assist the Regional Board, as needed, to conduct public workshops associated with the release and distribution of the Preliminary Project Report, Final Project Report, and Basin Plan Amendments for each TMDL.

Prepare publicly-accessible materials describing the TMDL process, pollutant-specific impairments/strategies and ways that stakeholders can get involved. The CEP members will work collaboratively to develop fact sheets for specific pollutants, and the TMDL process as a whole. The Participation and Outreach Committee will also coordinate with Regional Board staff to develop periodic progress reports regarding the progress of

specific TMDLs, and next steps for stakeholder involvement. The Participation and Outreach Committee will serve as a forum for CEP member staff who work closely with the public and media to determine which issues may be “ripe” for specific outreach activities.

Provide review and oversight of the CEP web site. The Committee will review the web site to ensure that it communicates clear objectives, priorities and timeframes for Bay Area TMDLs so that stakeholders can allocate their time and resources accordingly. The Participation and Outreach Committee will also review the web site on an on-going basis to ensure that stakeholders are kept informed about pollutant-specific developments – such as refinements in conceptual models/technical analysis, adjustments to project schedules, development of potential regulations, or changes in responsible personnel.

Information Management

The objective of the CEP’s information management plan is to design, deploy, and maintain an online presence for the partnership that effectively serves both program members and the public. For program participants, the site will serve as a central source of program information, providing timely access to documents that are easily retrieved, sorted, and maintained.

For the public, the web site will be updated frequently so that the public can review and retrieve information related to the program’s mission, goals, projects, progress, and results. It will also explain how the CEP relates to other water quality programs in the Bay, how TMDLs affect their individual concerns, and how they can get involved. Finally, it will enable individuals to enter their contact information and specific areas of interest on-line, which will provide the foundation for a larger database of contacts.

In FY02-03 an Information Management Plan will be developed in conjunction with the Administrative Committee. The plan will be implemented in three phases over the period FY02-03/FY04-05. Phase I, development of the basic components of the CEP web site, will be completed by the end of FY02-03. Phase II, which will include media refinement to make the site more visually compelling and other enhancements as identified by CEP participants, will be implemented in FY03-04. Phase III, the development of a long-term site maintenance plan, will be implemented along with further enhancements as requested in FY04-05.

The development of the CEP site will occur in a coordinated fashion with the web sites of both the Regional Board and the Regional Monitoring Program. Links will be maintained to both of these sites from the CEP site, and implementation of the Information Management Plan will include careful consideration of the content of these related sites to avoid duplication of effort.

Administration

The task of administering the CEP includes preparing and executing subcontracts, tracking expenditures, preparing financial reports for the Administrative Committee and the EMB, and maintaining a well-documented administrative record. It is expected that CEP financial records will be audited each year. The CEP will also prepare and distribute a Request for Qualifications to develop a list of contractors qualified to provide required services to the CEP.

The CEP will be issuing a Request for Qualifications in September 2003 to develop a roster of qualified contractors to assist with implementation of the annual work plans. It is expected that this roster will be updated regularly throughout the life of the CEP.

Budget

Projected Expenditures. Table 10 presents estimated annual and cumulative program expenditures for the CEP over the first six years of the program. The figures for FY 01-02 and FY 02-03 reflect actual (un-audited) expenditures, while FY 03-04 reflects contracted expenditures incurred to date, along with expected contracted expenditures to be incurred before the end of the fiscal year.

Estimated expenditures for fiscal years 04/05, 05/06, and 06/07 are estimates for the tasks outlined in the 5-year plan for each contaminant of concern. These estimates have a significant level of uncertainty, both in relation to the actual cost and the Fiscal Year when work will be conducted. Each year includes a contingency line as requested by the Administrative Committee. If these contingency funds are not expended in a given fiscal year, they are carried over into the next year. For purposes of the present projection, it is assumed that all contingency funds are carried over into the next fiscal year, and they appear as revenue for the next year (see Table 11). Estimated costs for coordination, administration and outreach in FY 04-05, 05-06, and 06-07 were estimated by assuming a 3% increase each year from FY03-04.

Projected Revenues. Table 11 presents projected funding for the CEP program over the six year program period from existing partners. This conservative projection assumes that contributions from existing funders remained unchanged from FY03-04 levels, and that no new partners or government grants contribute revenue to the CEP. Likewise, interest revenue has been assumed to be minimal.

Clean Estuary Partnership Multi-Year Plan

	FY 01/02 (A)	FY 02/03 (A)	FY 03/04 (B)	FY 04/05 (C)	FY 05/06 (C)	FY 06/07 (C)	(C)
(Thousands)							
Non-contracted Previous FY Monies	\$0.0	\$92.5	\$491.0	\$55.0	\$44.7	\$55.1	□
BASMAA	\$103.2	\$646.8	\$476.8	\$476.0	\$476.0	\$476.0	\$2,654.8
BACWA	\$207.5	\$520.3	\$622.2	\$476.0	\$476.0	\$476.0	\$2,778.0
WSPA	\$80.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$1,080.0
RWQCB	□	□	□	□	□	□	\$0.0
Interest	\$2.1	\$9.6	\$6.0	\$5.0	\$5.0	\$5.0	\$32.7
Other	□	□	□	□	□	□	□
□	□	□	□	□	□	□	□
TOTAL Partner contributions w/interest	\$392.8	\$1,376.7	\$1,305.0	\$1,157.0	\$1,157.0	\$1,157.0	\$6,545.5
TOTAL AVAILABLE FUNDS	\$392.8	\$1,469.2	\$1,796.0	\$1,212.0	\$1,201.7	\$1,237.1	□

Table 10: Estimated CEP Revenues for the first six-year program period. A = actual (un-audited), B = budgeted, C = Projected.

	FY 01/02 (A)	FY 02/03 (A)	FY 03/04 (B)	FY 04/05 (C)	FY 05/06 (C)	FY 06/07 (C)	(C)
(Thousands)							
Program Coordination	\$181.0	\$246.8	\$300.1	\$309	\$318	\$328	\$1,683
Program Administration	\$52.1	\$91.3	\$101.3	\$104	\$107	\$111	\$567
Participation & Outreach	\$37.2	\$104.7	\$227.0	\$234	\$241	\$248	\$1,092
Technical Projects	\$30.0	\$535.4	\$1,112.6	\$520.0	\$455.0	\$550.4	\$3,203.4
Mercury	\$15.0	\$177.8	\$171.2	\$110	\$50	\$15	\$539
PCB's	\$15.0	\$307.9	\$379.2	\$75	\$75	\$10	\$862
Copper/Nickel	□	\$6.5	\$192.2	\$0	\$0	\$0	\$199
Legacy Pesticides	□	\$9.4	\$30.0	\$15	\$35	\$0	\$89
Diazinon/Toxicity	□	\$5.0	\$65.0	\$5	\$10	\$20	\$105
Dioxin	□	\$0.0	\$35.0	\$0	\$0	\$	\$170
Selenium	□	\$0.0	\$20.0	\$15	\$35	\$10	\$80
Special Technical Projects	□	\$8.7	\$70.0	\$150	\$125	\$125	\$429
Technical Proj. Manag. & Peer Review	□	\$20.1	\$150.0	\$150	\$150	\$250	\$720
Contingency/carryover	\$92.5	\$491.0	\$55.0	\$44.7	\$55.1	\$95.4	\$834
FY Total Budget	\$392.8	\$1,469.2	\$1,796.0	\$1,212.0	\$1,201.7	\$1,212.1	\$6,545.5

Note : FY04-05 and on assumes a 3% increase each year from FY03-04 for Coordination, Administration and Participation and Outreach. Peer review includes \$175 for 5-yr program review in Year 5

Table 11: Estimated CEP Expenditures for the first six-year program period. A = actual (un-audited), B = budgeted, C = Projected.