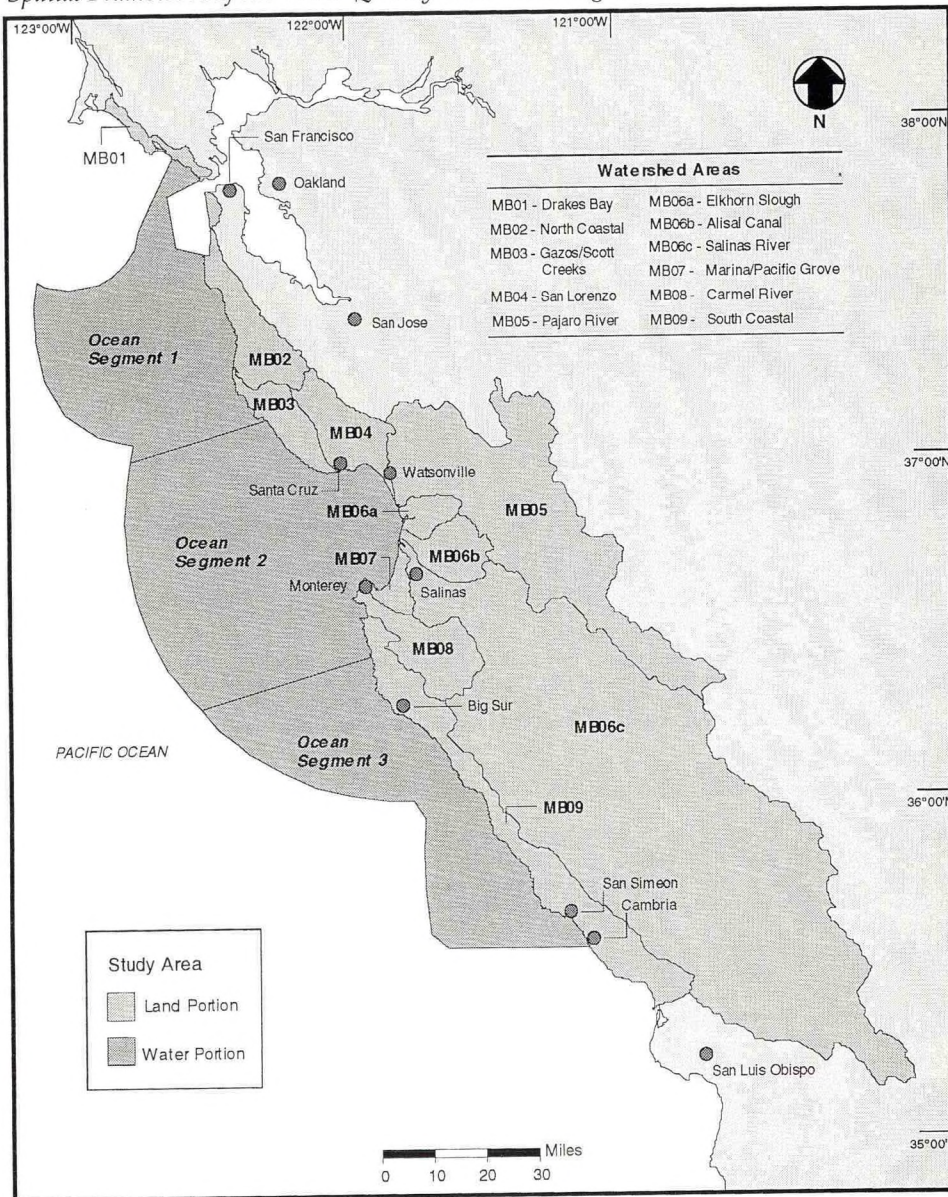


Monterey Bay National Marine Sanctuary Water Quality Protection Program

Framework for Plan Development - October 1994

Spatial Framework of the Water Quality Protection Program



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Signatories to the Memorandum of Agreement

Federal: NOAA, U.S. EPA
 State: Cal EPA, SWRCB, CCC, RWQCB 2&3
 Local: AMBAG

Origin and Purpose

This document summarizes the anticipated planning efforts for the Monterey Bay National Marine Sanctuary Water Quality Protection Program. The Water Quality Protection Program implements a key provision of the Memorandum of Agreement (MOA) signed by eight Federal, State, and local agencies—that they work together to develop a water quality protection plan for the Sanctuary. The MOA was adopted in September 1992 when Congress and the President established the Monterey Bay National Marine Sanctuary. It was created in recognition of the need for an ecosystem-based watershed management program to ensure protection of the Sanctuary's unique resources.

Signatories to the agreement are the National Oceanic and Atmospheric Administration; the U.S. Environmental Protection Agency, Region IX; the California Environmental Protection Agency; the California State Water Resources Control Board; the San Francisco Regional Water Quality Control Board; the Central Coast Regional Water Quality Control Board; the California Coastal Commission; and the Association of Monterey Bay Area Governments.

About This Document

The material summarized in this document represents the vision of the program development process held by the core group of agencies and organizations participating in the implementation of the MOA discussed above. This vision may be modified through input by the public and other institutions via the contacts established at future workshops and meetings.

The following pages provide a description of the way the program will be developed. A preliminary outline of the Program Plan's contents is also included.

For More Information

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Participating Agencies/ Organizations

Federal

*U.S. Department of Commerce, National Oceanic and Atmospheric Administration
U.S. Environmental Protection Agency
U.S. Department of Agriculture, Forest Service
U.S. Department of Agriculture, Soil Conservation Service
U.S. Department of Transportation, U.S. Coast Guard
U.S. Department of Defense, U.S. Army Corps of Engineers*

State of California

*California Coastal Commission
California Environmental Protection Agency
Department of Fish and Game
State Water Resources Control Board
San Francisco Regional Water Quality Control Board
Central Coast Regional Water Quality Control Board
California Resources Agency
Elkhorn Slough National Estuarine Research Reserve
University of California Sea Grant Extension Program*

Local Agencies

*Association of Monterey Bay Area Governments
Monterey County Agricultural Commissioner
Monterey County Department of Parks and Recreation
Monterey County Hospitality Association
Monterey County Planning
Santa Cruz County Planning
Santa Cruz Harbor District
San Luis Obispo County & Council of Governments*

Other Organizations

*Center for Marine Conservation
Elkhorn Slough Foundation
Monterey Fishermen's Marketing Association
Pacific Gas & Electric*

Introduction

This document summarizes the framework being implemented by the multi-agency planning group to develop the Monterey Bay National Marine Sanctuary's Water Quality Protection Program. The Water Quality Protection Program implements a key provision of the Memorandum of Agreement (MOA) signed by Monterey Bay Sanctuary area governments—that Federal, State, and local agencies work together to develop an ecosystem-based water quality protection plan. The MOA was adopted by eight Federal, State and local agencies in September 1992.

The Sanctuary

The Monterey Bay National Marine Sanctuary (MBNMS) was designated by Congress in September 1992. It encompasses approximately 4,000 square nautical miles of coastal and ocean waters along the central California coast, extending from southern Marin County southward to Cambria in San Luis Obispo County. The goals of the Sanctuary are to: 1) bolster the existing regulatory resource protection regime; 2) establish a coordinated research program to expand knowledge of the Sanctuary environment and resources, and thus provide the basis for sound management; 3) include a broad-based education and interpretive program to improve public understanding of the Sanctuary's importance as the habitat for a unique community of marine organisms; and 4) provide a comprehensive management framework to protect this habitat (NOAA, 1992). Development of the water quality protection program is an integral part of the management framework.

The Memorandum of Agreement

As part of the Management Plan for the Sanctuary, a Memorandum of Agreement (MOA) to develop an ecosystem-based process and Water Quality Protection Program (WQPP) for the Sanctuary was signed by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management (NOAA/OCRM); the U.S. Environmental Protection Agency, Region IX (USEPA); the California Environmental Protection Agency (Cal EPA); the State Water Resources Control Board (SWRCB); the San Francisco Regional Water Quality Control Board (SFRWQCB); the Central Coast Regional Water Quality Control Board (CCRWQCB); the California Coastal Commission (CCC); and the Association of Monterey Bay Area Governments (AMBAG). The purpose of the WQPP is to recommend priority corrective actions and compliance schedules addressing point and nonpoint sources of pollution. The program goal is to restore and maintain the chemical, physical, and biological integrity of the Sanctuary, including restoration and maintenance of its resources, qualities and compatible uses. Responsibilities for the implementation of the program will be assumed by Federal, State and local agencies. To avoid duplication and over regulation, the MOA mandates that the water quality management process take into consideration the following permits, plans, research and monitoring efforts already in place in the region:

- Research and monitoring associated with the development of a Sanctuary Water Quality Protection Program, as outlined in the MOA;
 - National Pollutant Discharge Elimination System (NPDES) permits (which include stormwater associated with industrial activity and wastewater from urban areas) issued under Section 13377 of the California Water Code;
-

- Waste Discharge Requirements (WDR) issued under Section 13263 of the California Water Code;
- California Ocean Plan, Enclosed Bays and Estuaries Plan*, Inland Surface Waters Plan*, relevant Basin Plans, and CWA 208 Plans; and
- Nonpoint Source (NPS) Pollution Planning and Control Measures including Management Plans prepared under Sections 319 and 208 of the Clean Water Act (CWA) and under Section 6217(g) of the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990.

An Integrated Management Approach

The process to develop the WQPP has been designed to take advantage of the resources available to do the job. It has been employed in other situations where time and money are limiting factors. While these factors are a concern in this program, a more compelling reason for using the proposed process is the need to bring together, in a consensus-building fashion, the parties that ultimately must implement the actions necessary to protect water quality for the Sanctuary. This approach is designed to bring the stakeholders to the table early in the management process and continue to use their valuable experience in shaping the set of actions that are put into place over time. Integrating the goals, activities, and resources of the various agencies responsible for protecting water quality in the region requires a commitment from the signatories of the MOA that allows active participation of staff in both formulating and implementing the WQPP.

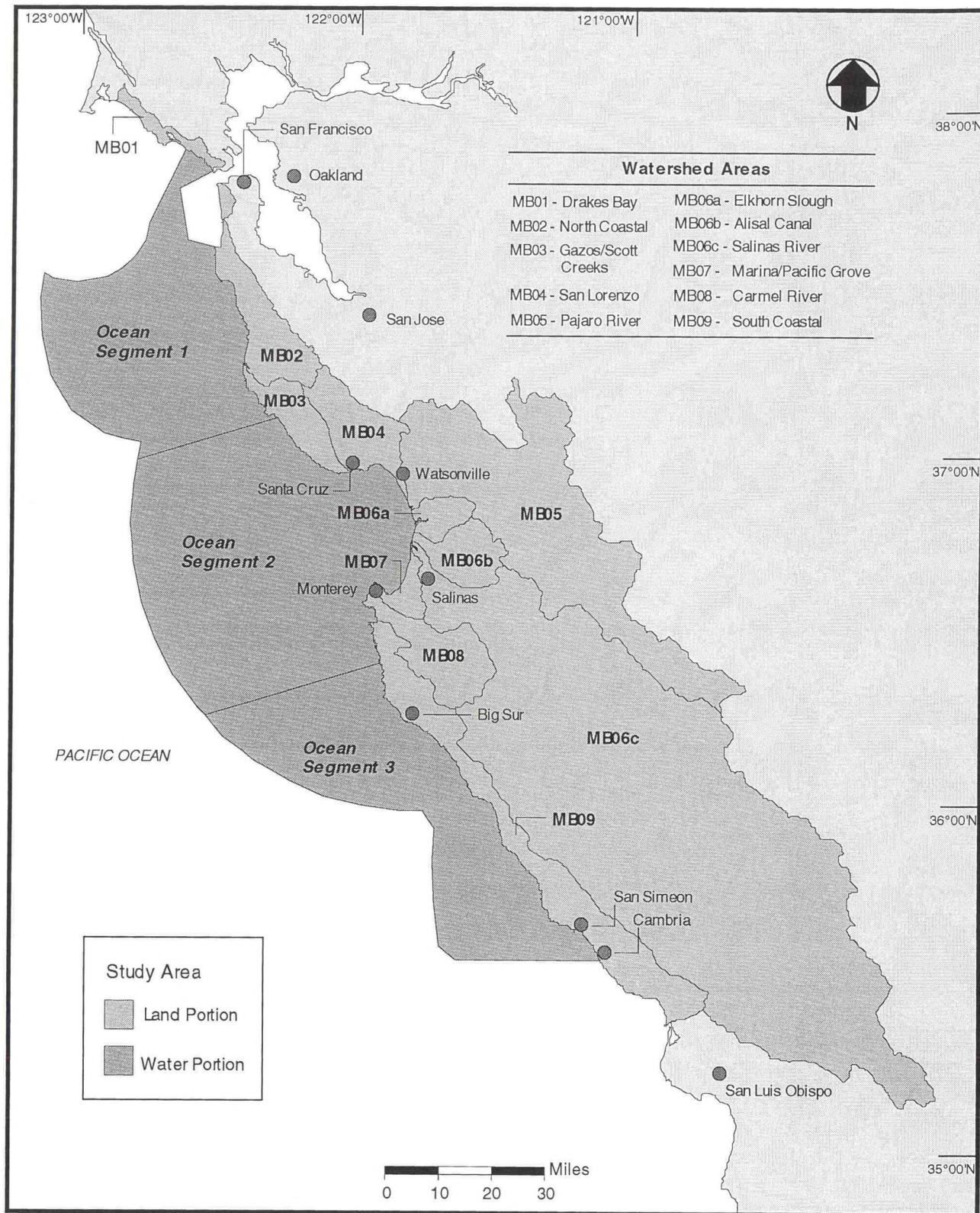
Consensus-building requires the participation of those who understand the water quality issues in the region, as well as those ultimately responsible for implementing management actions. The planning team will bring together the expertise necessary to complete this program planning effort through a series of workshops, focus groups, and meetings as described later in this document. The challenge at each of these work sessions is to construct a means of extracting and organizing the necessary information from the participants in a short but intensive period of time.

It is likely that many of the water quality problems currently or potentially affecting the Sanctuary can be addressed by management programs already established in the region. The key to making progress on protecting Sanctuary water quality is to recognize which programs are most suitable for addressing these problems and to identify how they could be directed to ensure appropriate water quality conditions in the Sanctuary. This is the first priority of integrated management in the region. The second is to establish activities to correct water quality problems not adequately addressed by existing management. The third component is to monitor water quality conditions over time and institute a process of continuous management to ensure that activities generate meaningful results.

Figure 1 documents the Program's broad geographic range. The figure shows the 11 watershed areas and three ocean segments delineated by the team developing the Program Plan. This area encompasses parts of eight counties, numerous cities, portions of basins managed by two regional water quality control boards, and the overlapping jurisdictions of a number of State and Federal agencies. It also contains a variety of land uses, human activities, and natural resources. This mix of responsibilities

*These plans were rescinded by the State Water Resources Control Board in September 1994.

Figure 1. Spatial Framework of the Water Quality Protection Program



**Water Quality
Protection Program
Goals & Objectives**

- Ensure protection for all Sanctuary resources
- Restore and maintain the Sanctuary's chemical, physical, and biological integrity
- Integrate mandates and expertise of existing coastal/ocean resources management
- Establish a comprehensive water quality monitoring program (determine sources; evaluate actions/programs)
- Provide for public participation
- Provide technology/information transfer
- Identify specific threats to Sanctuary resources
- Address specific threats to Sanctuary resources
- Recommend priority corrective actions
- Establish compliance schedules and corrective actions for control of point and nonpoint sources
- Assign responsibilities for corrective actions
- Adopt enforceable control measures
- Identify costs and sources of funding
- Adopt/revise water quality standards to protect Sanctuary resources

and background conditions mandates an approach that cuts across jurisdictional and political boundaries.

Although the goals of the WQPP provide reasonable targets for management, success, as in any planning process, is tied to developing realistic and detailed means of achieving these goals. Identification of the implementation requirements for solutions to water quality problems (i.e., costs, schedules, responsible institutions, financing mechanisms, monitoring needs, geographic focus, clear designation of targeted problems and sources) is a major concern of the Program.

The Program will rely heavily on education as a means to reduce pollutant inputs to the Sanctuary. Many sources of pollution will prove difficult or impossible to regulate. In these instances, voluntary compliance with guidelines developed by the Program will be the preferred method.

The Planning Process

The planning process to develop the WQPP uses a knowledge-based, consensus-building approach. It is designed to integrate the goals, activities, and resources of the various agencies responsible for protecting water quality in the region; take advantage of the resources available to do the job; and make the best use of existing knowledge and information. It relies on the participation, input, and agreement of resource managers, scientists, and the people who live and work in the Sanctuary region.

To be successful, the process requires the application of a detailed planning framework to guide the effort. This provides a structure for acquiring and encoding information and ideas. Working within this framework, participants can identify priority problems requiring the most attention, assess the effects of current management activities, and develop strategies that may be effective to successfully resolve the problems. The planning framework utilizes feedback mechanisms to build on work that has been completed as progress is made.

This section outlines the steps required to fully develop and integrate information and ideas on three critical elements that must be addressed during the planning process: problems, existing management activities, and strategies. The process is designed to develop and refine information pertaining to each element concurrently and in conjunction with one another. For example, the Issue Identification/Strategy Development Workshop held in January 1994 produced initial sets of problems, relevant programs, and strategies that will be assessed and refined as the plan is developed.

Critical Elements

Sharpening the Focus

To be successful, the WQPP must focus available resources on addressing water quality problems directly affecting the Sanctuary and its resources. Criteria for selecting problems to be addressed include:

- Connection to Sanctuary
- Environmental Urgency
- Existing vs. Potential
- Magnitude
- Assumed Benefits if Resolved
- Status of Existing Management

As the WQPP evolves and success is demonstrated, other, less pressing problems can be addressed.

Priority Problems. Identifying and developing information on a priority set of problems is critical to protect and improve water quality conditions and provides a basis for managers to combine and target their resources (people, time, and money). To accomplish this, problems must be identified, prioritized, and characterized in terms of their effect on the Sanctuary, spatial distribution, contributing sources and activities, and associated pollutants. Goals and specific targets for resolving the problems can then be established. This is important for accurately assessing the success of existing management activities and developing practical management strategies to address unresolved problems.

Existing Management Activities. One of the goals of the WQPP is to integrate existing Federal, State, and local government programs and plans that currently address priority problems. Accomplishing this involves identifying existing programs and plans that address the priority problems, assessing their level of implementation and success, and establishing a connection between them and proposed strategies. Developing this information is important for two reasons: 1) existing programs and plans can be the vehicles for implementing new or modified management actions proposed in strategies; and 2) a "new" strategy may provide a means for implementing a program that currently does not have the resources to accomplish its goals. This information also will help reduce the potential for duplicating management efforts.

While not a priority in the near-term, ultimately it will also be important to assess the effectiveness of current pollutant standards and objectives. This includes determining if they are sufficient to resolve priority problems. This

information will guide the development of strategies that help meet standards, modify existing standards, or set standards for pollutants that currently have none.

Strategies. Strategies are the suite of potential management "actions" or "physical measures" devised to resolve priority problems. Strategies may also be developed to ensure the protection of existing conditions from perceived threats. The "knowledge-based, consensus-building" approach recognizes that experts from a variety of backgrounds have a sound understanding of problems and good ideas on how to resolve them. Therefore, strategies developed early in the process provide planners and participants with raw materials that can be refined as information on problems and existing management activities is gathered.

Prioritizing strategies is an important component of strategy development. It allows planners to focus on strategies that can realistically achieve the goals and specific targets established for each problem. The planning process establishes a framework for prioritizing strategies based on an assessment of perceived environmental and socioeconomic impacts, the cost of implementation, and the most effective institutional arrangements for management. This information provides planners with a means to select strategies by comparing their anticipated impact if implemented. Strategies that are cost-effective, do not pose an undue burden on the community, and have a high potential for successfully resolving a targeted problem are preferable.

Strategies also must provide the operational detail necessary to carry them out. Information on targeted sources, activities, and pollutants; spatial coverage; administrative components; scheduling of activities; and important prerequisites must be fully developed. This information is essential for managers to effectively implement the strategies.

The Process

The planning process (Figure 2) uses an iterative approach to make the best use of time and information. It is a structured process that requires direct participation through workshops and Focus Groups. This enables people from government agencies, academia, private organizations, and user groups to integrate their ideas, concerns, and expertise.

Planning and developing the WQPP are structured to proceed through five distinct phases that result in: 1) a detailed program document that specifies what will be implemented, and 2) a formal, continuous management process that provides clear guidelines for integrated participation and management among the agencies responsible for protecting the region's water quality.

Phase I - Preliminary Problem Identification and Strategy Development. The objectives of this phase are to: 1) organize existing information within a spatial framework that includes both watersheds and marine segments; 2) compile a list of problems that are of primary concern; 3) identify existing programs and plans that address those problems; and 4) generate strategies that can be refined as the process proceeds. This was accomplished by planning and conducting a Water Quality Issue Identification/Strategy Development Workshop. The results of the workshop are summarized in a document describing the problems of primary concern

Three Critical Elements

There are three critical elements that must be addressed during the planning process. Each element must be considered in conjunction with the others. Thus, each element is developed and refined throughout the process.

Problems

- Identify
- Prioritize
- Characterize
- Set Goals & Targets

Existing Management Activities

- Identify
- Describe
- Evaluate
- Connect to Strategies

Strategies

- Identify
- Refine
- Assess Impacts
- Prioritize
- Develop Operational Details

and listing the strategies that were developed (NOAA, 1994). This phase produced the raw materials to carry forward in the process.

Phase 2 - Characterization and Refinement of Problems, Programs, and Strategies. The objectives of this phase are to better describe and refine the problem set, develop an initial characterization of associated programs and plans, and develop a cogent set of proposed strategies. Refining the problem set is accomplished through a series of assignments and work sessions that result in a more concise description of each problem, and the development of a subset of priority problems. Prioritizing problems at this stage recognizes that some problems are interconnected, i.e., if you resolve one problem you may resolve those that are connected to it. Prioritization also recognizes that one plan cannot and should not attempt to do everything, and that resources should be focused on those things that are of primary importance.

Strategy development will be accomplished by: 1) assessing the recommendations developed by the State's Technical Advisory Committees (TACs) to address Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA); 2) organizing them with the strategies developed at the Water Quality Issue Identification/Strategy Development Workshop; and 3) conducting a series of "Focus Group" work sessions organized around contributing source/activity themes. Focus groups will consist of approximately 10 participants having expert knowledge of their theme. This phase improves the quality of information on problems, existing management activities, and strategies.

Phase 3 - Assessing Conditions and Establishing Goals. In this phase, the NOAA Strategic Environmental Assessments (SEA) Division, the Project Development Team (PDT - see page 9), and additional experts will conduct an in-depth assessment of existing conditions related to each priority problem. This includes evaluating the success of existing programs and plans associated with each problem, thereby providing information to establish goals and specific targets for resolution. This will enable planners to evaluate and refine the existing strategies, and develop the necessary new strategies to meet agreed-upon goals. For example, if little is known about the possible connections between an activity and a problem, focus would be placed on developing strategies related to research and monitoring of the conditions. This phase will result in a better understanding of existing conditions and the success of existing management activities, and help to produce a refined set of strategies that can be further developed to improve conditions.

Phase 4 - Assessment and Prioritization of Strategies. The objectives of this phase are to characterize and assess the refined set of strategies based on their perceived environmental and socioeconomic impacts, the cost of implementation, and the most effective institutional arrangements. The assessment will be used to select a feasible set of strategies to focus on for implementation. Characterizing the environmental and socioeconomic impacts of strategies will be accomplished through a second set of Focus Group work sessions. Information on the cost of implementation and institutional arrangements will be generated at a larger workshop that brings together experts from the agencies that have knowledge of existing programs, plans, and budgets. This phase will result in a feasible set of

Figure 2. Proposed Framework for Plan Development

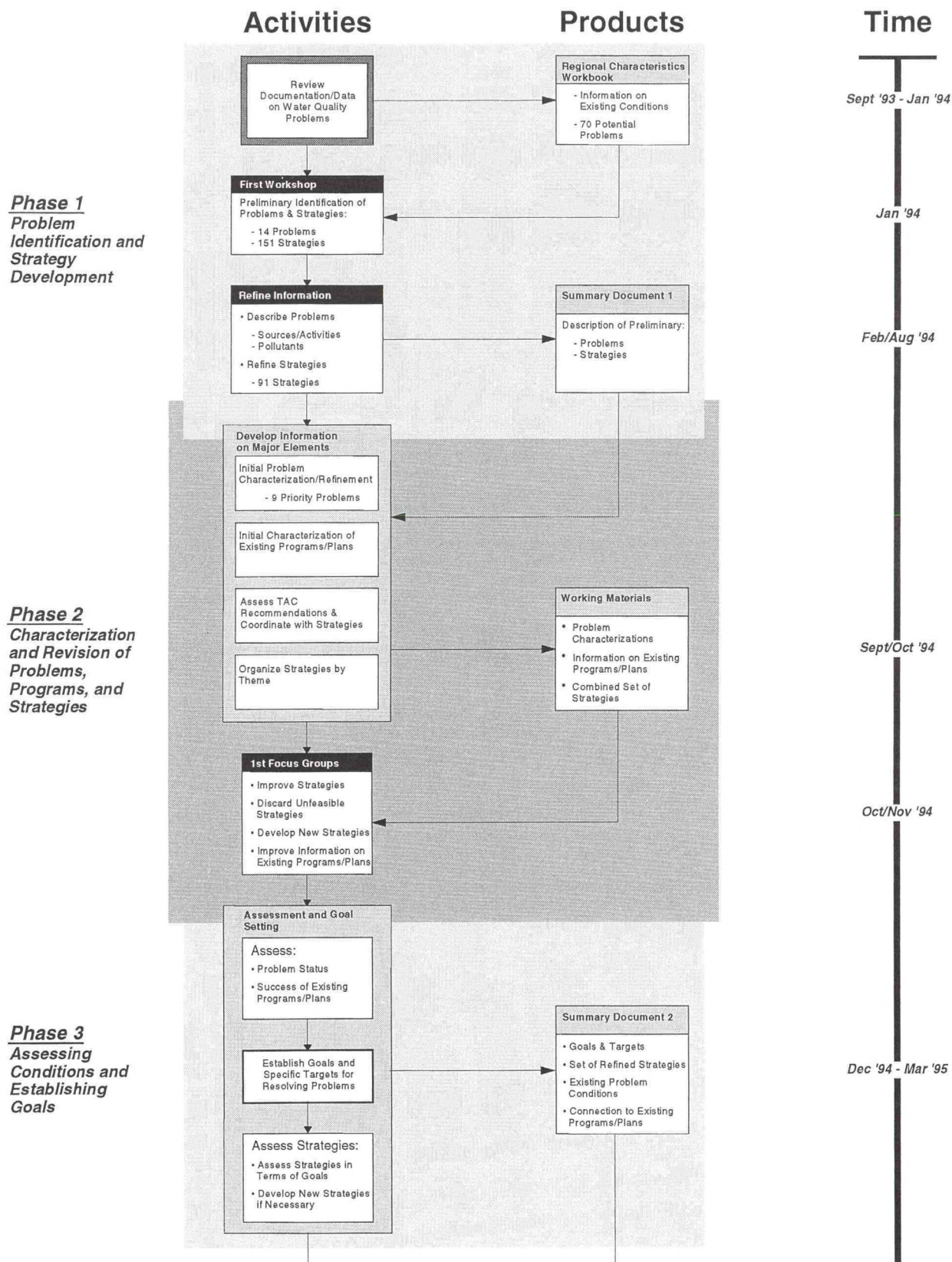
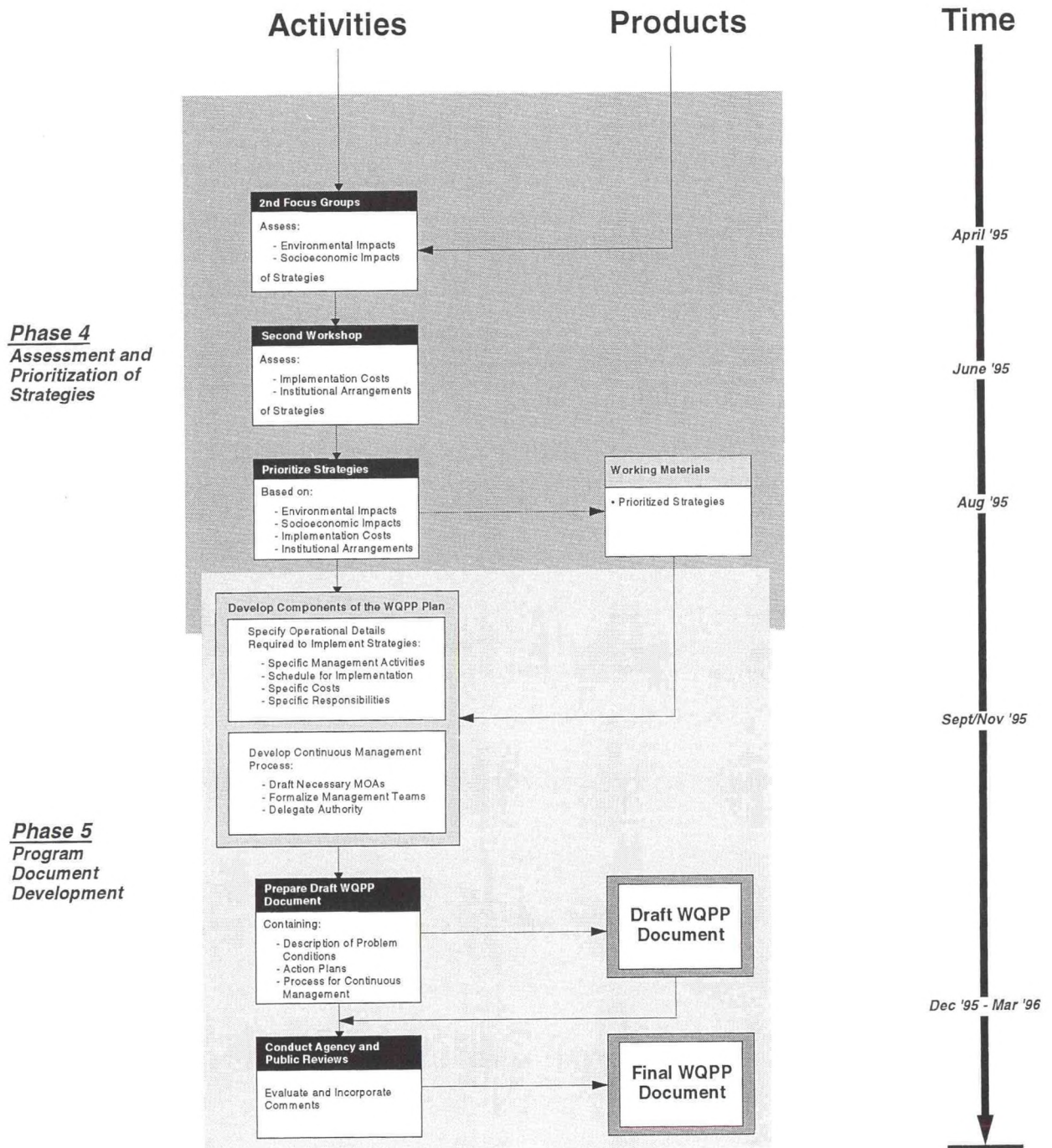


Figure 2. Proposed Framework for Plan Development (cont.)



strategies to be included in the WQPP document. Nevertheless, the remaining strategies will still provide planners with a pool of materials to reassess if the strategies that are implemented are unsuccessful.

Phase 5 - Program Document Development. The first objective of this phase is to make the final connections between problems, existing management activities, and the strategies that can best meet the goals and objectives for each problem. A series of Action Plans will be developed that specify the operational detail required to implement each strategy. For each strategy, information will be generated on: specific management activities, the schedule and costs associated with each activity, and the specific agencies responsible. This also will require the development of a series of Draft Program Documents and a process for conducting the necessary agency and public reviews resulting in the Final Program Document.

The final WQPP document will not be the end of the process to manage water quality for the Sanctuary. In most respects, it will be the beginning. The WQPP must contain provisions and a structure for the continuous management of water quality, and might include an ongoing interagency group, much like the existing Core Group, to oversee implementation of the Program. Many of the benefits of adopting such a cooperative approach will extend into other components of environmental management themes. Benefits include: 1) making maximum use of existing staff, research and monitoring funds, and equipment; 2) avoiding duplication and/or conflict in regulation; 3) improving understanding of programs in other agencies; and 4) simplifying permitting of activities.

Opportunities

The MOA to develop a WQPP recognized that protecting and improving water quality conditions is important to protect resources in the Sanctuary. The process described will enable those involved to build new, and to strengthen existing, partnerships. It will allow the agencies and institutions involved to pool their resources to address problems that may be too large and complex to be managed by any single institution. The process to develop the WQPP also will result in an increased understanding of the problems facing the Sanctuary. This, in turn, will enhance efforts to organize data and information through the coordinated assessment of water quality conditions related to priority problems and the development of an integrated monitoring framework.

The Planning Core Group

The effort to produce the WQPP for the Sanctuary requires the participation and cooperation not only of the signatories to the MOA, but from other agencies and institutions as well. Participation also is important from local industrial, commercial, and agricultural operations and organizations, and from the people who reside in the region. To assimilate the input from these various sectors, a Core Group of representatives has been formed to develop, review, and initiate implementation of the WQPP (Appendix A). The three subgroups that form the Core Group (Project Development Team, Program Review Committee, and Signatory Representatives) have unique roles in the evolution of the program.

Project Development Team (PDT)

The PDT, with the support of NOAA staff from the Strategic Environmental Assessments (SEA) Division and the Sanctuaries and Reserves Division (SRD), is responsible for the day-to-day planning and development of the WQPP. Members of the PDT have indicated an interest and willingness to dedicate a portion of their time to regular meetings and to work assignments supporting development of the WQPP. The responsibilities of the PDT include:

- Determining the structure and outcome of the process through consensus;
- Acting as a liaison between the team and individual agencies/groups (i.e., team members represent their agency/group's position on the issues and will be responsible for reporting group decisions to their agency/group and the Program Review Committee);
- Planning and developing text, data, and other information to support workshops (i.e., review and summarize reports, generate summary information from data bases, etc.);
- Planning and preparing "Focus Group" meetings;
- Facilitating workshops and "Focus Group" meetings;
- Refining the raw materials generated at workshops and "Focus Group" meetings (e.g., review and refine materials; assist with synthesis, analysis and characterization; and help write supporting summary pieces);
- Developing major components of the plan such as "Environmental Impacts of Proposed Strategies;" and
- Developing and disseminating a newsletter addressing activities related to the development of the WQPP (i.e., the insert to the AMBAG Newsletter).

Program Review Committee (PRC)

The PRC is comprised of a broader spectrum of interested agencies and institutions than the PDT. These individuals will be asked to provide general oversight and guidance to the Program as it evolves. Participation of the PRC members will not require as much time as PDT members. Responsibilities of the PRC members include:

- Providing advice and assistance to the PDT;
- Providing assistance and expertise to the PDT for specific tasks;
- Providing assistance and expertise at workshops and "Focus Group" meetings, as required;
- Reviewing major elements of the program;
- Helping prepare for workshops and "Focus Group" meetings, if necessary; and
- Helping refine, develop, and prepare materials in conjunction with the PDT, as required.

Signatory Representatives

A subset of the PDT and the PRC will act as representatives for the agencies that signed the MOA to develop the WQPP. They will act as a conduit between the program and the eight signatory agencies. Responsibilities include:

- Providing institutional direction to the process;
- Approving major stages of program development;
- Acting as a liaison with upper-level management within individual agencies (i.e., keeping them informed of progress and obtaining approval) if the member is not an upper-level management representative;
- Obtaining final approval from their agency; and
- Helping to identify funding mechanisms.

Public Involvement

The public at large will have an important role in the development of the Program Plan. The "Public" includes both the citizens residing in the region, as well as the scientific community and industrial, commercial, agricultural, and other sectors of the regional economy. Starting with the January 1994 workshop through the final program document, and as part of a continuous management process, the public's role is vital to the ultimate success of this program.

Public input will be sought in a series of Focus Groups conducted to refine problem definitions and strategy descriptions and identify gaps in strategy coverage (Figure 2). All working sessions (including workshops, Focus Groups, PDT meetings) are open to the public. An educational outreach program will be developed to present information about the WQPP and to obtain input from community groups. As the process continues, public input also will be requested when considering the feasibility, institutional arrangements, and implementation of strategies.

Preliminary Program Plan Outline

The following is a preliminary outline for the Water Quality Protection Program (WQPP) Plan Document, which will include approximately five major sections.

Action Plans

Section II of the Water Quality Protection Program Plan will contain specific Action Plans consisting of:

- Identification of strategies to be implemented in Year 1
- Strategy descriptions, including specific activities for each
- Estimated time to complete each strategy
- Geographic focus
- Personnel requirements
- Costs involved
- Funding availability
- Implementation timing and prioritization of specific activities
- Institutional responsibilities
- Relationship to other strategies and Action Plans

I. INTRODUCTION

A. Executive Summary

- 1) Participating Agencies and Organizations
- 2) Impact on NOAA's Strategic Plan Initiatives and NOS Goals
- 3) Continuous Management Process

B. Overview

- 1) Study Area Description
- 2) Problem Identification
- 3) Background and Purpose of WQPP
- 4) Goals and Objectives

II. WATER QUALITY PROTECTION PROGRAM (see box at left)

A. Introduction and General Description

B. General Action Plans

C. Specific Action Plans (Samples)

- 1) Research and Monitoring
- 2) Education
- 3) Enforcement
- 4) Nutrients
- 5) Others

D. The Evolving Program

- 1) Continuous Management Process

III. DESCRIPTION OF EXISTING WATER QUALITY CONDITIONS

A. Introduction

B. Description of Priority Problems (by Problem)

1) Status

- a) General Description
- b) Spatial
- c) Temporal

2) Significant Sources / Activities (includes Contributing Pollutants)

- a) Point Sources - e.g., toxic spills, ocean disposal sites, vessel discharges
 - b) Nonpoint Sources - e.g., agricultural land use, construction runoff
 - c) Water Management - e.g., dams, water diversion
- 3) Relationship to Sanctuary Resources
- a) Invertebrates
 - b) Fish
 - c) Amphibians
 - d) Reptiles
 - e) Birds
 - f) Mammals
 - g) Endangered and Threatened Species
 - h) Submerged Aquatic Vegetation (SAV)
 - i) Other Resources

IV. PROTECTION PROGRAM DEVELOPMENT

A. Problems

- 1) Selection Process
- 2) Priority Designation Process
- 3) Corresponding Management Objectives
- 4) Existing Management Activities Related to Problems
 - a) Institutions
 - b) Success - How Well are Existing Management Activities Addressing Problems?

B. Strategy Identification and Revision Process

- 1) Connection Between Strategies and Problems
- 2) Targeted Sources and Activities
- 3) Connections to Existing Programs
- 4) Resolving the Identified Problems (How each Strategy will Improve on Existing Activities)

C. Existing Pollutant Standards

- 1) Review Process
- 2) Relation to Identified Problems
 - a) Contribution Level of Each Pollutant of Concern
 - b) Extent to which Pollutant Standards are being Met
 - c) Would Meeting Specific Standards Resolve Specific Problems?
 - d) Identify Pollutants that may need Standards

D. Assessment of Environmental and Socioeconomic Impacts

- 1) Effects of Strategy Implementation
 - a) On the Natural Environment
 - b) On Human Activities

E. Implementation and Institutional Arrangements

- 1) Identify Institutional Roles
- 2) Identify Implementation Requirements

F. Strategy Prioritization

- 1) Prioritized based on Relative Characteristics
 - a) Environmental Impacts
 - b) Socioeconomic Impacts
 - c) Costs
 - d) Institutional Arrangements
 - e) Number and Type of Prerequisites

V. **BACK MATTER**

Challenges

The Monterey Bay National Marine Sanctuary WQPP is in its early stages. The planning process is envisioned to take approximately two years, ending in 1996. The ultimate success of the program will be measured by how well it achieves the goals and objectives shown on page 4. Several challenges are inherent in implementing the WQPP once the planning stages are complete. Recognizing these challenges early in the planning stages will help the PDT design a process and a program that address them.

Proactive vs. Reactive Plan

Although a number of water quality problems have been identified in the region, there does not appear to be a great deal of evidence that water quality in the Monterey Bay National Marine Sanctuary is currently in a severely degraded state. However, water quality conditions in many surface and ground waters in the region pose a threat to Sanctuary resources. The WQPP has been proposed to keep the water quality from becoming degraded. The challenge is to get the relevant institutions to put time and money into a process designed largely to prevent problems when other concerns are also facing them. With continuing budget problems nationally, and in the State of California in particular, it will be difficult to make this program a high priority when there is no perception of a crisis. One argument for taking action now is that it is usually more cost-effective to prevent water quality from declining than to clean it up after conditions become intolerable. Preventing large scale accidents (e.g., oil spills or wastewater overflows) is another reason to take a proactive stance. The magnitude of such events could have catastrophic impacts on Sanctuary resources.

Developing a Cooperative Project

The WQPP is being developed by a group of people representing various State, local, and Federal agencies and interests. Once final, the program is likely to be jointly administered and carried out by some combination of those agencies. In order for both the planning and the final implementation to be successful, these agencies must continue to work together. This may mean occasionally working outside of the perceived normal protocols or practices of the agencies. Each agency must be willing to work cooperatively, and at times, to redirect its own priorities for the benefit of the WQPP.

Part of working together will be compiling a more complete understanding of what programs are already in place to handle water quality concerns in the region. The challenges are to identify which programs are most suitable to address Sanctuary water quality issues and to explain in detail how they can be better coordinated to avoid duplication of effort. Integrated planning and management can save time and money by eliminating duplicate efforts, pooling staff expertise from different agencies, and leading to more effective programs.

Another concern that arises whenever multi-agency groups are formed to cooperate on a project like the WQPP is the issue of decision-making. Because these groups usually form a loose confederation that convenes on a case-by-case basis, making progress can be difficult due to the lack of clear lines of authority, both within the group, as well as between the group and the relevant agencies. In the case of the WQPP, some guidance on how the signatories are to participate is provided in the MOA that established the Program planning effort. Even with this guidance, however, the planning

team must recognize the need to agree upon and provide a more complete description of the components of the continuous management process.

Making a Long-term Commitment

In order for the WQPP to be successful, the implementing agencies will have to take a long-term view of water quality management. Baseline information and monitoring will be necessary to determine if new problems are beginning to arise or if conditions are remaining stable or improving. The WQPP must be designed to be flexible enough so that if problems arise in the future, resources can be redirected to address them before they become severe. This continual evaluation of water quality conditions will require a long-term commitment of both time and resources on the part of the cooperating partners.

Clear Expectations and Priorities

Even when completed, the entire WQPP cannot be implemented instantaneously. Available logistics and other considerations will result in some strategies going into effect before others. Decision-makers will have to identify which strategies should be implemented and how implementation should occur. It will be important to determine which problems and geographic areas should receive focused attention. Some of the proposed strategies may be very costly and others may not. Some also may be more effective than others. One of the challenges will be to find the best balance of these strategies to finally implement. Evaluating environmental, social, and institutional costs and benefits will help determine which strategies should be implemented.

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Definitions of Acronyms

- ACOE U.S. Army Corps of Engineers
- AMBAG Association of Monterey Bay Area Governments
- BMP best management practices
- Cal EPA California Environmental Protection Agency
- CCC California Coastal Commission
- CCRWQCB .. Central Coast Regional Water Quality Control Board
- COG Council of Governments
- CWA Clean Water Act
- CZARA Coastal Zone Act Reauthorization Amendments
- GIS geographic information system
- ICM integrated coastal management
- MBNMS Monterey Bay National Marine Sanctuary
- MOA Memorandum of Agreement
- NERR National Estuarine Research Reserve
- NOAA National Oceanic and Atmospheric Administration
- NMFS National Marine Fisheries Service
- NMS National Marine Sanctuary

NPDES	National Pollutant Discharge Elimination System
NPS	nonpoint source
OCRM	Office of Ocean and Coastal Resource Management
ORCA	Office of Ocean Resources Conservation and Assessment
PDT	Project Development Team
PG&E	Pacific Gas and Electric Company
PRC	Program Review Committee
RWQCB	Regional Water Quality Control Board
SEA	Strategic Environmental Assessments
SFRWQCB	San Francisco Regional Water Quality Control Board
SRD	Sanctuaries and Reserves Division
SWRCB	State Water Resources Control Board
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirements
WQPP	Water Quality Protection Program

Appendix A.

Core Group Structure

Representative	Institution/Affiliation	City/State
PROJECT DEVELOPMENT TEAM		
Papadakis, Nick*	AMBAG	Marina, CA
Strnad, Les	CCC Santa Cruz	Santa Cruz, CA
Johnston, Deborah	Department of Fish and Game	Monterey, CA
Maki, Steven	Monterey County Planning	Salinas, CA
Ueber, Ed	NOAA, Gulf of the Farallones NMS	San Francisco, CA
Jackson, Terry*	NOAA, Monterey Bay NMS	Monterey, CA
Laughlin, Steve	NOAA, Monterey Bay NMS	Monterey, CA
Cotter, Patrick	NOAA, Monterey Bay NMS & CCC, Santa Cruz	Monterey, CA
Carlin, Michael	RWQCB, Region 2	Oakland, CA
Thomas, Michael	RWQCB, Region 3	San Luis Obispo, CA
Bradford, Donna	Santa Cruz County	Santa Cruz, CA
Martinson, Stan	SWRCB	Sacramento, CA
Starr, Rick	University of California Sea Grant Extension Program	Moss Landing, CA
Kuegle, Sunny	US EPA	San Francisco, CA
PROGRAM REVIEW COMMITTEE		
Walsh, Michael	ACOE	San Francisco, CA
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Del Piero, Marc*	Cal EPA and SWRCB	Sacramento, CA
Baird, Brian	California Resources Agency	Sacramento, CA
Grove, Tami*	CCC Santa Cruz	Santa Cruz, CA
Saunders, Rachel	Center for Marine Conservation	Pacific Grove, CA
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Kimple, Steve	Elkhorn Slough NERR	Watsonville, CA
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Patterson, Richard	Monterey County Hospitality Association	Pebble Beach, CA
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Ricketts, Mike	Monterey Fishermen's Marketing Association	Carmel Valley, CA
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Reis, John	U.S. Coast Guard	Monterey, CA
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Cerna, Al	USDA Soil Conservation Service	Salinas, CA
PROGRAM PLANNING AND SUPPORT		
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McDonough, John	NOAA, SEA Division	Silver Spring, MD
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