

Galveston Bay National Estuary Program
EPA/State Management
Conference Agreement
October 1989
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GALVESTON BAY NATIONAL ESTUARY PROGRAM

EPA/STATE MANAGEMENT CONFERENCE AGREEMENT

Publication GBNEP - 1

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Galveston Bay

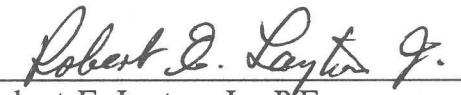
State/EPA Conference Agreement for National Estuary Program Designation Under the Water Quality Act of 1987

We recognize the need for a Management Conference on Galveston Bay to better define the environmental concerns in the system; to address the extent, complexity and sources of pollutants; and to develop a Comprehensive Conservation and Management Plan for action. We further recognize that the State and EPA share the responsibility for management decisions and resources regarding priority issues in the system.

In signing this agreement, we are committing to products and schedules which will: assess trends in water quality, natural resources and uses; determine the causes of change through data collection, characterization, and analysis; evaluate point and nonpoint loadings and relate them to observed changes; write a Comprehensive Conservation and Management Plan which includes recommendations for priority actions; develop plans to coordinate implementation of a comprehensive plan with federal, state and local agencies; provide monitoring to assess the effectiveness of the implementation actions; and review federal financial assistance programs and federal development projects for consistency.

We also agree that the statutory requirements for Management Conference membership have been met and that we will participate in that conference. Further, we commit that the statutory requirements for matching funds will be met to complete the characterization of priority problems and develop the comprehensive conservation and management plan.


B.J. Wynne, III
Chairman
Texas Water Commission


Robert E. Layton, Jr., P.E.
Regional Administrator
Environmental Protection Agency
Region 6

PREFACE

The National Estuary Program (NEP) was established by the Water Quality Act of 1987. The Act authorizes the Administrator of the Environmental Protection Agency (EPA) to convene Management Conferences to develop Comprehensive Conservation and Management Plans (CCMPs) for estuaries of national significance that are threatened by pollution, development, or overuse. Section 320 of the Act outlines the estuary designation process and the purposes of a management conference.

The justification for convening a Galveston Bay Management Conference was specifically recognized by Congress prior to passage of the Act, and was further established by the Governor's Supplemental Nomination of May 1988. A cooperative agreement between Texas and the U.S. EPA was signed in October 1988, enabling initial developmental work to begin on the Galveston Bay National Estuary Program (hereafter referred to as GBNEP, composed of the conference membership, the EPA Region VI program staff, and the State Program Office).

This document is the resulting commitment of the GBNEP to begin working to improve water quality and enhance living resources in Galveston Bay. As an agreement, it represents State commitments for what work will be accomplished, as negotiated among the EPA Region VI, the Office of Marine and Estuarine Protection (OMEP), and the State Program Office, and as approved by the Management Conference and EPA headquarters. As a workplan, the activities specified here compose an overall road map for the project, an overview and schedule for work culminating in a CCMP by September 1994.

As work toward maintaining and enhancing Galveston Bay commences, specific activities will be committed to in annual workplans, and reports of accomplishments will be put forth in quarterly and annual reports, and in a newsletter and other publications for the public. Throughout the process, extensive involvement will be sought from the numerous groups, industries, organizations, and individuals with interests in Galveston Bay.

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INTRODUCTION

By all measures, Galveston Bay ranks high among the nation's significant estuaries. As a result of its abundant living resources, Galveston Bay is the nation's second most productive estuary. The commercial value of fish and shellfish harvest attributable to Galveston Bay in 1986 totaled 63 million dollars, with 1,196 full-time job equivalents and some 7 million dollars in taxes. From this estuary, an additional 1.1 million pounds of fish were landed in 1986 by recreational fishermen, accounting for about half of all sport fishing expenditures on the Texas Coast and resulting in nearly 600 million dollars in gross Texas business, the equivalent of more than 10,000 full-time jobs, and about 20 million in taxes. Seventy-one percent of all pleasure craft registered in Texas coastal counties come from the four counties surrounding Galveston Bay, and gross business from additional tourism and non-fishing recreation in the Bay amounts to another 425 million dollars yearly, with 7,726 full-time job equivalents and more than 15 million dollars in taxes.

And yet, despite its productivity, Galveston Bay is among the most urban and industrial of the nation's estuaries. The more than 3.5 million people residing in the four surrounding counties (1990 projection) depend on more than 600 utility, water, and drainage districts that affect the Bay, with half of all permitted wastewater dischargers in Texas occurring in just these four counties. Fully, half of the nation's chemical production occurs on the Bay's shoreline, and 30 percent of the nation's petroleum refining. These and other industries heavily depend on shipping in the estuary, and the Port of Houston is now the third largest U. S. port in tonnage.

All told, Galveston Bay provides some 2.74 billion dollars in direct and indirect economic benefit annually. The benefits provided by this natural resource fall to industry, shipping, commercial and recreational fishermen, and the public at large. And the benefits extend far beyond Texas, as Congress recognized in designating the Bay as an Estuary of National Significance. As a major deep water port and petroleum and chemical producing center, Galveston Bay represents billions of dollars in impact on the world economy. Biologically, more than 90% of all commercial and recreational fishing dollars derived from the entire Gulf of Mexico depend on species that require estuaries like Galveston Bay for one or more critical life stages.

Historically, the surprising natural resilience of the Galveston Bay System has allowed these greatly contrasting uses to occur with relatively small losses in productivity of its living resources. In the past, this resilience has allowed the various governmental agencies involved in planning and management of Galveston Bay to proceed in diverse directions with incomplete coordination. But the capacity of the Bay to sustain current uses under existing management strategies is limited, and has already been exceeded in some cases. The Bay cannot sustain further population growth, industrial uses, and commercial and recreational harvests without an integration of management efforts to effectively target emerging problems. Without a coordinated effort among users, regulators, and the public, the value of the Bay as a natural resource will decline.

The need to more effectively manage nationally significant estuaries like Galveston Bay has been recognized by Congress in the creation of the National Estuary Program (NEP). The need to convene an NEP Management Conference for Galveston Bay has been documented in the Governor's Supplemental Nomination of May 1988, resulting in an initial cooperative agreement signed in October 1988. Work under this initial agreement between Texas and the U.S. EPA has consisted of developmental activities to initiate and establish the GBNEP, with the goal of producing a Comprehensive Conservation and Management Plan (CCMP) in September 1994.

This Five-year Management Conference Agreement sets forth the work to be accomplished during the Management Conference itself (October 1, 1989 - September 30, 1994). The negotiated work activities and timeline presented in this workplan will be the general guide to GBNEP activities, while annual workplans (the first of which is submitted concurrently with this document) will lay out detailed projects and associated budgets.

The overall framework for the five years of work outlined here consists of seven purposes put forth in the Water Quality Act of 1987 and directly quoted here:

- Purpose 1. Assess trends in water quality, natural resources, and uses of the estuary.
- Purpose 2. Collect, characterize, and assess data on toxics, nutrients, and natural resources within the estuarine zone to identify the causes of environmental problems.
- Purpose 3. Develop the relationship between the in place loads and point and nonpoint loadings of pollutants to the estuarine zone and the potential uses of the zone, water quality, and natural resources.
- Purpose 4. Develop a comprehensive conservation and management plan that recommends priority corrective actions and compliance schedules addressing point and nonpoint sources of pollution to restore and maintain the chemical, physical, and biological integrity of the estuary, including restoration and maintenance of water quality, a balanced indigenous population of shellfish, fish and wildlife, and recreational activities in the estuary, and assure that the designated uses of the estuary are protected.
- Purpose 5. Develop plans for the coordinated implementation of the plan by the States as well as Federal and local agencies participating in the conference.
- Purpose 6. Monitor the effectiveness of actions taken pursuant to the plan.
- Purpose 7. Review all Federal financial assistance programs and Federal development projects in accordance with the requirements of Executive Order 12372, as in effect on September 17, 1983, to determine whether such assistance program or project would be consistent with and further the purposes and objectives of the plan(s) prepared under this section.

Because this agreement is based on the above Legislation, any future legislative changes could entail a re-evaluation and possible revision of this agreement. Also, the EPA OMEP has provided additional specific guidance designed to ensure that the seven purposes of the WQA will be met. This guidance provides that the State:

1. Establish and support a Program Office to support the activities of the Conference and its participants.
2. Improve base programs in the protection of water quality and living resources.
3. Establish an "action now agenda" to implement critical needed actions prior to implementation of a CCMP.
4. Educate and involve the public.
5. Develop a comprehensive plan supported by a financing strategy.

The guidance provided by OMEP further enumerates eight key activities and major products to be part of the state commitment:

1. Priority problem identification with public involvement.
2. An inventory of federal programs applicable to the priority problems in the estuary.
3. A base program analysis and "action now agenda".

This is consistent with the Administrator's determination to convene the Conference and the guidance on the "Contents of Governor's Nominations" as well as Chapter 3 of the Primer. A base program analysis would entail the review, evaluation, and potential for redirecting existing regional, state, and local resources and programs to address the priority problems in the estuary. This "targeting" should be accomplished during the five years provided for development of the CCMP.

4. A financing plan.

This program requirement was introduced in the guidance on the "Contents of Governor's Nominations" and commitments were obtained to develop these plans in the nominations. The financial plan should be developed to: provide the Conference information on the costs of pollution control options to assist in determining what actions will be identified in the CCMP; and second, to describe how the CCMP will be financed. The strategy should include state and public involvement.

5. A final status and trends report.

6. A final "probable causes and pollutant loadings" report.
7. A draft CCMP.

The CCMP must include a federal consistency report and plans for coordinated implementation with monitoring.

8. A final CCMP including the state strategy to finance implementation.

This, then, is the guidance utilized in preparing this State/EPA Management Conference Agreement. The signing of this Agreement represents the commitment and direction established for the five years of the Conference, and ultimately, for the protection and enhancement of Galveston Bay as a vital national resource.

I. SUMMARY OF ACCOMPLISHMENTS

The organizational framework of the GBNEP is now in place and functional. The structure of the program reflects the plan in the Governor's Nomination (Figure 1). Most committees are now meeting regularly with coordination from an established Program Office. The public is actively involved in plans for the first year of work, and a newsletter has begun quarterly distribution. State matching funds for the program are being secured and work to be accomplished in the first year (FY 1990) has been detailed in the first annual workplan, submitted to the EPA concurrently with this Management Conference Agreement. Appendix 1 lists, step by step, the critical planning initiative elements that have been completed through April, 1989, to firmly establish the Program.

Galveston Bay National Estuary Program Management Conference Structure

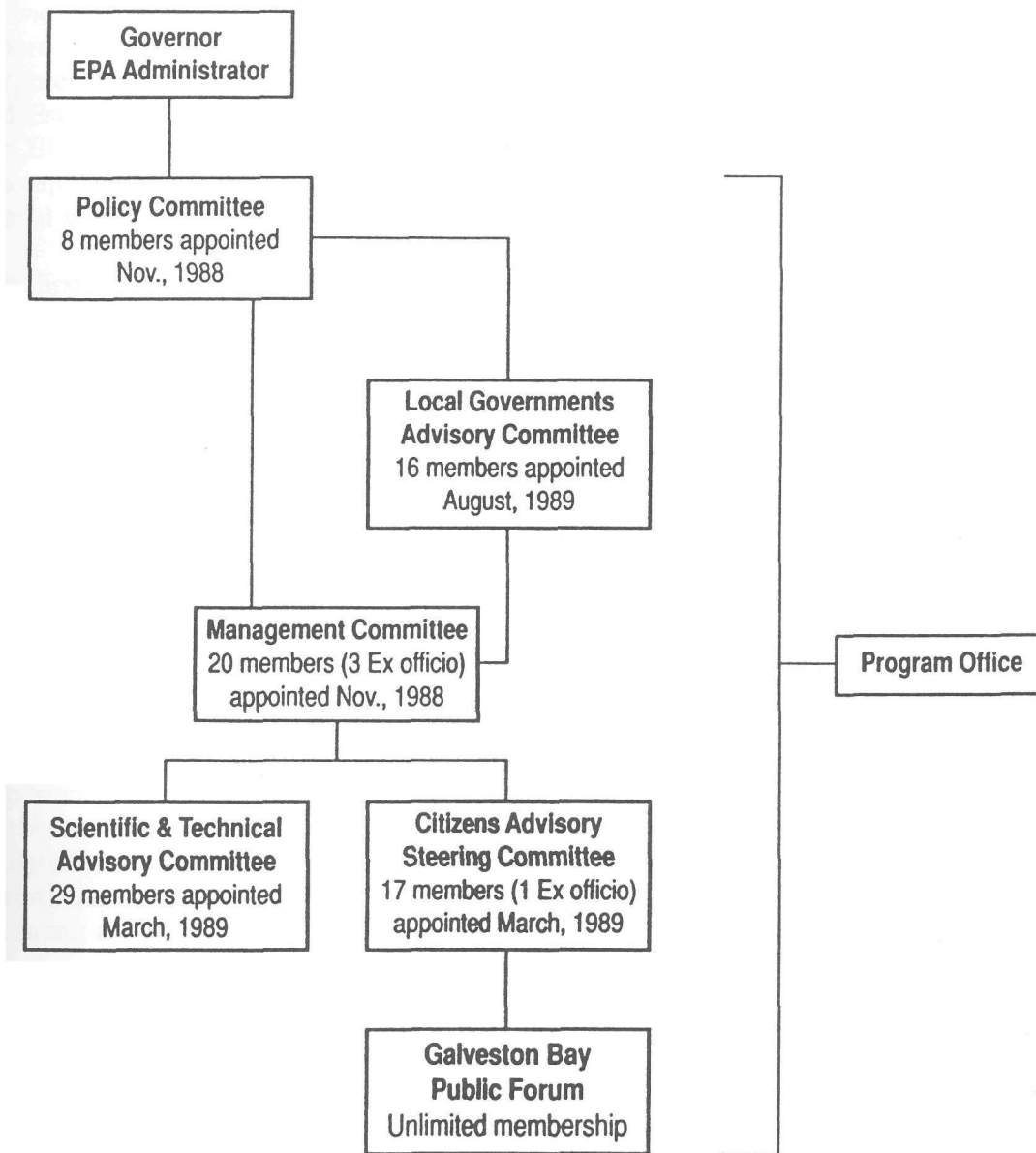


FIGURE 1. Management Conference committee structure as outlined in the Governor's Supplemental Nomination and adopted by the GBNEP.

II. SUMMARY OF COMMITMENTS

Individual work commitments for the GBNEP are documented in the following sections of this report. These commitments will result in six key reports (products) related to the explicit purposes of the Water Quality Act of 1987 and to guidance supplied by EPA, Office of Marine and Estuarine Protection (Table 1). While these are the program emphases agreed upon by the EPA and State, additional project work and interim publications will be required to accomplish these commitments, and will be specified at the more detailed level appropriate in annual workplans.

The first report will be a ranked list of the Bay's environmental problems. This Priority Problems List will be the basis for undertaking analyses of existing Galveston Bay data, and for specifying new investigations. The environmental problems on this list are ranked for importance to the program, based on specific criteria listed herein, to insure that work progresses toward effective management solutions to pressing problems in the estuary. The Priority Problems List has already been approved by the Policy Committee in draft form (February 3, 1989), and is expected to be modified as the program proceeds to continually direct the work toward an effective management result. A final Priority Problems List will be published by April 1990. The list will reflect ongoing direct public involvement from public forums and from organized Scientific/Technical Advisory Committee and Citizens Advisory Committee efforts.

Second, a Program Inventory will be produced in June 1990. This will summarize current and historical programs conducted by a wide variety of agencies and institutions. The Program Inventory will gather this information as a general resource for program participants, but more importantly, the Inventory will characterize existing data sets to determine their potential use for better understanding the Bay's problems. The Inventory will moreover lay a foundation for integration of the historically diverse management efforts directed at Galveston Bay by the various arms of government. The Program Inventory will exceed OMEP requirements by including all agencies and institutions, rather than just federal agencies.

Third, a Base Programs Action Plan will be developed in July 1991 to improve existing federal and state programs in Galveston Bay. The Plan will make direct use of the Program Inventory and will contribute to formulation of improved monitoring and management activities during CCMP development. The Base Programs Action Plan will include recommendations aimed at eliminating duplicated efforts and filling gaps or strengthening existing base programs. This effort is begun early in the program so that program changes can be implemented prior to the CCMP for more immediate protection of water quality and living resources. In combination with the Base Programs Action Plan, and to further contribute to "Action Now" guidance supplied by OMEP, interim management actions will be undertaken whenever program findings indicate the need. The initial direction for these management actions has already been supplied in action plans proposed on pages 56-60 of the Governor's Supplemental Nomination, and these management actions will also result from future program findings.

TABLE 1

RELATIONSHIP BETWEEN WATER QUALITY ACT PURPOSES,
EPA GUIDANCE PROVIDED, AND NEGOTIATED GBNEP PRODUCTS

WQA of 1987 Purpose	EPA/OMEP Guidance Item	GBNEP Product	Date
	1. Priority Problems List	Priority Problems List	April 1990
	2. Federal Program Inventory	Program Inventory	June 1990
	3. Base Programs Analysis/ "Action Now Agenda"	Base Programs Action Plan	July 1991
1. Trend Study	5. Status/Trends Study	Final Characterization Report	Jan. 1993
2. Cause/Effect Study	6. Cause-Effects/Loading Study	Final Characterization Report	Jan. 1993
3. Loading Study		Final Characterization Report	Jan. 1993
4. CCMP	7,8. Management Implementation	Draft, Final CCMP	March, Sept. 1994
5. Federal/State Coordination		Draft, Final CCMP	March, Sept. 1994
	4,7,8. Financial Strategy	Draft, Final CCMP	March, Sept. 1994
6. Monitoring	7,8. Monitoring	Draft, Final CCMP	March, Sept. 1994
7. Federal Consistency	7,8. Federal Consistency	Draft, Final CCMP	March, Sept. 1994

Fourth, a Characterization Report produced in January 1993 will encompass all efforts to define environmental trends, determine the causes of detrimental trends, and to link pollution and other human impacts to their associated problems in Galveston Bay. The Characterization Report will include the results of analyses of existing data, as well as work contracted to fill in any "gaps" identified in this historical data. This major three-year effort to characterize human impacts will result in annual "State of the Bay" reports in addition to other interim publications that will sustain involvement of participants and contribute to interim management actions. The final Characterization Report will be unique in summarizing all characterization work, as a basis for CCMP management recommendations.

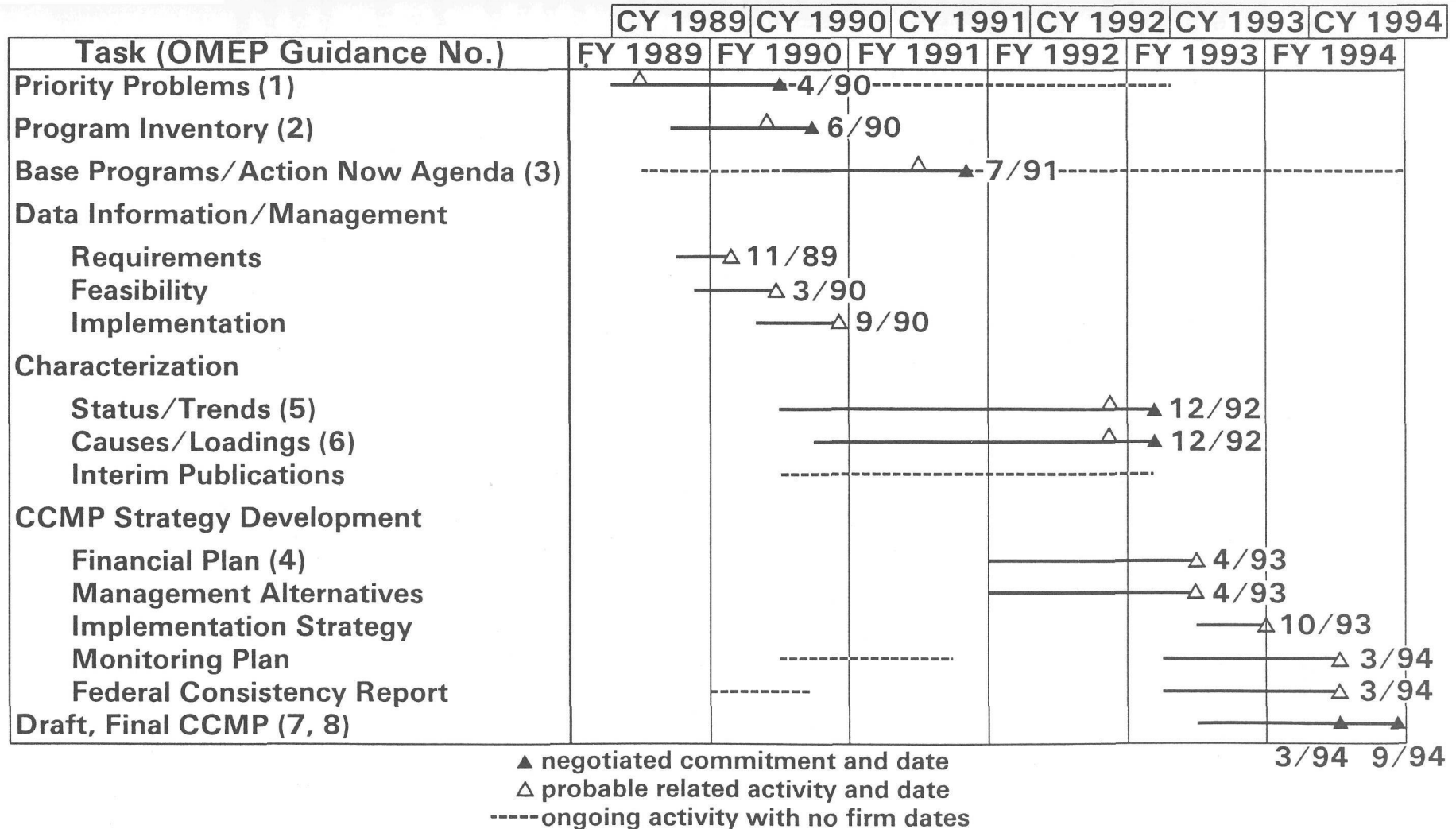
The final two key reports are the Draft CCMP in March 1994, and the Final CCMP in September 1994. These will be a culmination of all GBNEP efforts. The CCMP will represent the consensus of participants for corrective actions to be undertaken, and for the compliance schedules, funding needs and sources, institutional jurisdictions and regulatory bases for these management activities. Some aspects of CCMP development, for example investigation of funding alternatives, will begin early in the program, concurrent with characterization studies. The Draft CCMP will be completed a full six months prior to the final CCMP to allow for extensive review and comment. The final CCMP will then be the foundation for years of management efforts beyond the five-year life of the GBNEP, and as such will provide for effective monitoring and flexible management responses for the future.

Throughout the five years of the GBNEP, much effort will be devoted to formulating an effective CCMP. However, numerous improvements in existing management activities are expected to be implemented prior to the final CCMP approval. The Base Programs Action Plan will recommend early actions to improve existing management activities. Interim "Action Now" projects will be implemented as critical problems are recognized in the estuary. The GBNEP will be a mixture of planning for long term improvements, and immediate action to address problems as they become better defined. These activities will, for the first time, integrate the efforts of the numerous governmental agencies and institutions.

Also throughout the GBNEP, public involvement and education will be key requirements for success. Public participation is vital because any regulatory changes or increased government efforts eventually cost the taxpayer. The public has a right to know the true condition of Galveston Bay and a right to figure in the solutions to its problems, just as it has a right to enjoy its economic and recreational benefits. Therefore, numerous public involvement activities will be undertaken. These include a quarterly newsletter, public meetings, slide and video presentations, and other activities detailed in the annual workplans.

Figure 2 summarizes GBNEP activities outlined in this agreement, along with the time schedule for their accomplishment.

Time Line for Completion of Galveston Bay National Estuary Program Tasks



III. IDENTIFICATION AND RANKING OF PRIORITY PROBLEMS

Recognition of critical problems in Galveston Bay is the basis for formulating both general and specific management goals. The recognition of and ranking of these problems is an on-going process that is only complete when results of the scientific/technical work are available. However, a working list of ranked problems is necessary from the program's inception, in order to effectively guide the work.

The GBNEP has already completed a draft Priority Problems List (Table 2). Development of this list was greatly helped by two related conferences that brought together numerous scientists and others to discuss Galveston Bay and its problems. The first of these was an "Estuary of the Month Seminar" presented in Washington, D.C. hosted by the National Oceanic and Atmospheric Administration, on March 14, 1988. The second was a similar public seminar sponsored by the Coastal Society, the Texas Environmental Coalition, and the Galveston Bay Foundation on July 23, 1988 in Houston.

Speakers at these two seminars included many of the scientists and technical people most familiar with Galveston Bay, many of whom are now on various committees of the Management Conference. From these meetings a list of identified problems was compiled, was approved by the GBNEP Policy Committee on February 3, 1989, and was transmitted to EPA Region VI on February 13, 1989.

This work will specifically address OMEP guidance element number 1, development of a Priority Problems List. The following program components describe work to be completed:

- o Compile draft Priority Problems List based on previous work concerning Galveston Bay, summarized in Galveston Bay: Issues, Resources, Status and Management (NOAA Estuary-of-the-Month Seminar Series No. 13), and based on the Governor's Supplemental Nomination of Galveston Bay as an Estuary of National Significance. (completed)
- o Submit draft Priority Problems List for review by Management Committee, and approval by Policy Committee as a working list for public and scientific/technical review and ranking of problems. (completed)
- o Revise Priority Problems List based on review by the public, CAC and S/TAC, and rank problems utilizing the suggested criteria below. An affirmative response for each criterion would tend to confer higher significance, and additional criteria may be included as necessary.
 - Is the problem real (vs. perceived)?
 - Does the problem have a general (systematic) influence on the estuary (or if not, is it serious enough to warrant inclusion anyway?)

- Does the problem affect public health?
 - Can the probable cause of the problem be identified?
 - Is it feasible to correct the problem?
 - Is a reasonable research effort/expenditure sufficient to develop management activities to correct the problem?
 - Is the problem of great concern to public, private, and governmental parties involved?
- o Submit ranked Priority Problems List for recommendation by Management Committee and approval by Policy Committee and distribute list to the public and EPA Region VI and OMEP as a basis for work during the characterization phase of the Program.
 - o Re-evaluate Priority Problems List as necessary during the characterization phase of program, as new information becomes available, so that final management recommendations reflect the best possible knowledge of critical estuary problems.

D R A F T

TABLE 2

PRIORITY PROBLEMS LIST

Approved by Policy Committee
February 3, 1989

<u>Problem Areas</u>	<u>Potential Causes</u>	<u>Possible Effects</u>	<u>Suggested Actions</u>
o Water quality deterioration	Increased wastewater loading Nonpoint source impacts Toxic sediment resuspension Salinity concentration changes	Fishery declines Shellfish bed closures Eutrophication Changes in designated uses	Identify noncompliant point source dischargers; effect compliance Investigate nonpoint source mitigation through use of BMPs in segments identified in NPS Assessment Report Examine existing pretreatment programs Determine freshwater inflow needs of estuary
o Freshwater inflow reduction	Reservoir construction in watershed Water consumption increases	Reduction in species diversity Increase in undesirable species Wetlands loss	Complete/refine studies on freshwater inflow requirements Implement freshwater releases in accordance with estuary needs
o Pathogenic impacts	Increased wastewater loading Improper sludge handling practices Septic tank problems Sewer line overflows/bypasses	Shellfish bed closures Changes in contact recreational uses Public health impacts	Adjust wastewater discharge permit parameters as necessary Identify and correct noncompliant point source discharges Identify and correct sewer line bypasses, overflows and septic tank malfunctions
o Toxic impacts	Dredge spoil disposal Wastewater loading Hazardous waste site runoff Nonpoint source impacts	Fishery declines Changes in species diversity Shellfish bed closures	Evaluate alternative spoil disposal methods/beneficial uses of spoil Evaluate current pretreatment program effectiveness Identify/implement appropriate nonpoint source BMPs
o Wetlands loss	Freshwater inflow reduction Subsidence Bay water level increases Urban expansion Dredge spoil disposal	Living resource declines Water quality deterioration Shoreline erosion increases	Implement/recommend freshwater releases Evaluate ongoing subsidence control programs Evaluate wetlands creation/restoration techniques including beneficial uses of spoil
o Shellfish loss	Salinity concentration changes Dredge spoil disposal Increased wastewater loading Nonpoint source impacts Freshwater inflow reduction	Negative economic impacts Reduction in species diversity	Insure adequate freshwater releases Examine alternative spoil disposal methods/beneficial uses of spoil Identify/implement nonpoint source mitigation measures Insure point source discharge compliance

D R A F T

TABLE 2 (Continued)

<u>Problem Areas</u>	<u>Potential Causes</u>	<u>Possible Effects</u>	<u>Suggested Actions</u>
o Habitat reduction	Subsidence/Erosion Freshwater inflow reduction Dredge spoil disposal Energy resource extraction Urban expansion	Living resource declines Reduction in species diversity Negative economic impacts	Evaluate ongoing subsidence control programs Insure adequate freshwater inflow to estuary Examine alternative spoil disposal methods/beneficial uses of spoil Insure compliance with energy development license/permit requirements
o Eutrophication	Wastewater loading Nonpoint source loading In-situ regeneration of nutrients Interactive processes	Habitat loss Water quality deterioration Reduction in species diversity	Insure point source discharge permit compliance Implement recommended nonpoint source mitigation measures Examine feasibility of nutrient budget model for estuary
o Living resource reductions	Bacterial contamination Toxic material impacts Freshwater inflow reduction Habitat loss Salinity concentration changes Energy resource extraction	Negative economic impacts Reduction in species diversity	Point source discharge permit/pretreatment program compliance Investigate wetlands creation/restoration techniques including beneficial uses of spoil Insure adequate freshwater releases Insure energy extraction license/permit compliance
o Modification of circulation patterns	Alteration in freshwater inflow Channelization activities Placement of fill material or artificial reefs Subsidence/Erosion	Water quality deterioration Habitat loss Reduction in living resources Negative economic impacts	Develop a hydrodynamic model for the Bay Develop mitigation strategies

IV. PROGRAM INVENTORY

Achieving the purposes of the NEP will require compiling and analyzing large quantities of physical, chemical, and biological data and other information. Most existing information is scattered among various institutions, representing a variety of projects, parameters, study locations, and periods of record. Making use of this information will require that a Program Inventory be conducted to identify and describe all federal and state programs (and other information sources) related to Galveston Bay. Only the Federal portion of this Inventory is required by OMEP, but most existing data have been collected by State agencies. The purposes of this Program Inventory are:

- o To compile and publish project/program descriptions, each containing an overview of significant findings and management activities, and to make the source generally available.
- o To characterize existing data sets to a level of detail necessary to determine potential usefulness in a DIMS during scientific/technical investigations, and as an ongoing general archive.
- o To characterize federal and state agency regulatory roles and jurisdictions in order to integrate overall governmental efforts during scientific/technical investigations and management implementation.

This work specifically addresses OMEP guidance element number 2. The following program components describe work to be completed for the Program Inventory:

- o Develop a program list for all agencies, universities, institutions, and other groups with past, present, or planned research/management programs related to Galveston Bay.
- o Submit draft program list to Management Committee and Region VI for completeness review.
- o Prepare draft Program Inventory, including individual program summaries for each agency/institution. Summaries are classified by federal, state, local government, academic, or other involvement. The summaries emphasize detailed descriptions of data bases and regulatory criteria related to Galveston Bay, including periods of record, parameters, computer formats, quality assurance and control (QA/QC), summaries of findings, and publication references. Draft Program Inventory submitted for review to all committees, the general public, and Region VI.
- o Submit final Program Inventory for review by Management Committee, approval by Policy Committee, and distribution as a basis for determining data available to

address priority problems, for possible roles of various programs during characterization, and for federal and state regulatory program consistency.

Distribute Program Inventory to the public, with copies to EPA Region VI and OMEP.

V. BASE PROGRAMS ANALYSIS AND "ACTION NOW" IMPLEMENTATION

Once the Program Inventory has been completed, existing base monitoring and management programs can be scrutinized for effectiveness in relation to the identified problems of the estuary. This analysis is necessary because various agencies have differing jurisdictions resulting in varying regulatory and monitoring approaches which have never been considered from a system-wide perspective. The human impacts to Galveston Bay are cumulative in the entire system, and affect the Bay's identified problems in the estuary as a whole.

The goal of the base programs analysis is to identify duplicated efforts, gaps and weaknesses in ongoing management and regulatory programs and in base data collection efforts for monitoring (see pages 56-60 of Governor's Nomination). Results of the analysis are then incorporated into a Base Programs Action Plan to correct any noted deficiencies. The appropriate changes will be implemented as "Action Now" activities representing interim management implementation, undertaken well ahead of the final CCMP. This assures effective actions are taken early to conserve vital living resources.

This work will specifically address OMEP guidance element number 3, development of a base programs analysis with an "Action Now" agenda. The following program components describe work to be completed:

- o Identify existing base programs based on the Program Inventory and characterize their scopes, overlaps, and deficiencies.
- o Prepare draft Base Programs Action Plan, based on existing base programs and their relation to identified priority problems in the estuary and pertinent bay characterization data. Draft report is reviewed by Scientific/Technical Advisory Committee and transmitted to Management Committee with any public comment.
- o Submit final Base Programs Action Plan to Policy Committee for approval.
- o Distribute final Base Programs Action Plan to public and EPA Region VI and OMEP.
- o Set a schedule and implement modifications recommended in Base Programs Action Plan to redirect existing agency base programs toward solving targeted priority problems.
- o Modify action plans, as necessary, throughout the process, as supported by new information or deliberations of the Management Conference.

VI. DATA AND INFORMATION MANAGEMENT SYSTEM

The Data and Information Management System (DIMS) will become a centralized source of information for Galveston Bay. It may include an information center for bay-related publications, as well as one or more computer data base systems for critical numerical data now present in various agency data bases and files. The DIMS will serve as a focus for collection and analysis of new data during the scientific/technical investigations and during development of the CCMP. It will provide for general access to technical and non-technical information both during the Management Conference and subsequently during management implementation. Although a DIMS is not specifically required in OMEP guidance, it remains a critical need for adequate characterization of Galveston Bay.

The following program components describe work to be completed for the DIMS:

- o Identify necessary requirements for a DIMS, based on the Program Inventory, expected new characterization data, expected long-term monitoring needs, the Priority Problems List, and user community comments.
- o Compile a draft Feasibility Report for DIMS alternatives, including evaluation of currently existing systems as they relate to DIMS requirements and constraints imposed by historical data. Draft report reviewed by Scientific/Technical Advisory Committee, Management Committee, and Region VI.
- o Choose and specify a DIMS, for recommendation by the Management Committee and approval by the Policy Committee.
- o Screen the data described in the Program Inventory for relevance to Priority Problems and for adequate QA/QC. Incorporate acceptable data and information into the DIMS for general availability during characterization work.

VII. CHARACTERIZATION OF HISTORICAL TRENDS, CURRENT STATUS, AND HUMAN IMPACTS ON GALVESTON BAY

The characterization of Galveston Bay will be based on about three years of work to analyze historical data and conduct new scientific/technical investigations. This work will be specifically directed toward investigating priority problems, and will make use of the DIMS. The focus of work will be to determine historical trends to date in Galveston Bay and to identify the causes for these trends. Particular attention will be directed toward human impacts, including contaminants from point and nonpoint sources. This knowledge, summarized in issue papers, annual State-of-the-Bay reports, technical publications, and the final Characterization Report will become the basis for implementing effective management actions.

The goal of the characterization process is not to completely define cause-effect mechanisms and natural ecological processes in Galveston Bay. Rather, it is to investigate, at an applied level, those aspects of the estuary specifically affected by human impacts addressable with environmental management. The characterization phase is too short for new long-term research efforts, and the need for effective management is too great to expend resources on programs not specifically aimed at true problems in the estuary.

This work will specifically address purposes 1, 2, and 3 of the Water Quality Act of 1987 and guidance item number 5 and 6 from OMEP concerning trends analyses and cause/effect studies of human impacts to the bay. The following program components describe work to be completed:

- o Review priority problems and historical data to determine analyses to be conducted on existing data and to determine new investigations to gather and analyze additional data. Investigations and analyses are tied to the priority problems and their management solutions, and will explicitly address historical trends, current status, and human influences on Galveston Bay. Individual analyses and investigations are recommended by Management Committee and approved by Policy Committee, based on extensive review of each analysis or investigation by the scientific and regulatory community.
- o Publish issue papers and an annual "State of the Bay Report" concerning study findings and critical problems and management questions. Distribute these to participants and public during the investigations to stimulate comment and involvement and to enhance general knowledge. These publications will augment any interim technical reports or papers resulting from the work.
- o Compile draft Characterization Report based on analyses and investigations. Report will explicitly address historical trends, current status, and human influences on Galveston Bay. Report is written to both address and revise the Priority Problems List based on investigations, and is reviewed by project participants, EPA, and general public.

- o Submit final Characterization Report for recommendation by Management Committee and approval by Policy Committee, as a basis for determining and implementing management solutions to the priority problems.
- o Distribute final Characterization Report to public and EPA Region VI and OMEP.

VIII. COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN

Development of the CCMP is the major objective of NEP management conferences. The CCMP combines results of the scientific/technical investigations with proposed management activities designed to address the problems of the estuary. Integral components of the CCMP include:

- o workable implementation plans
- o strong public participation and commitment
- o consensus among program participants concerning regulatory aspects of proposed management
- o integral funding strategy for proposed management and regulatory actions
- o integration of the diverse roles of government agencies at all levels
- o an effective means of measuring the success of management actions

The CCMP will specifically address purposes 4, 5, 6, and 7 of the Water Quality Act of 1987, including guidance from EPA on these purposes and on the need for a financial strategy. The approach begins early in the five-year process with consideration by all participants of a financial strategy and management action alternatives. Results are then integrated in a draft CCMP which also includes plans for implementation, agency coordination and monitoring efforts. This draft CCMP is a critical point in the process for extensive review and consensus building among participants and the public. Only then can a final CCMP be approved by the Management Conference.

The following program components describe work to be completed during CCMP development:

- o Develop a draft financial plan which provides an array of financial alternatives for funding of possible management alternatives.
- o Develop a draft list of management alternatives with rough cost estimates to address priority problems, based on scientific/technical investigations and the Program Inventory. Report is submitted for extensive review by regulatory community, regulated community, local governments, and public.
- o Develop a draft management implementation strategy to explicitly address priority problems in Galveston Bay. Report is based on draft management alternatives list, draft financial plan, and any additional work deemed necessary by the Policy Committee. Implementation strategy will include management activities, funding, and an

implementation schedule. Strategy is submitted for extensive review by regulatory community, regulated community, local governments, and public.

- o Develop a draft CCMP to include:
 - A management implementation strategy to include recommended technical, financial, and regulatory actions and a compliance schedule.
 - A monitoring strategy to integrate existing monitoring efforts by various agencies making use of the DIMS, and aimed at tracking the compliance schedule and measuring resulting improvements in Galveston Bay.
 - A federal agency consistency strategy to eliminate inconsistencies and duplicated efforts and identify possible new federal agency contributions to management implementation and monitoring.
- o Submit the draft CCMP for comment by all interested parties including EPA OMEP and the public and for written response by all interested parties. Final recommendations made to Policy Committee and Local Governments Advisory Committee.
- o Submit final CCMP to Policy Committee for approval as the basis of management implementation.
- o Distribute final CCMP to public and EPA Region VI and OMEP.

APPENDIX 1

PLANNING INITIATIVE ELEMENTS ACCOMPLISHED THROUGH APRIL 1989

Date	Planning Initiative Work Element
<hr/>	
1988 May	<p><u>Governor's Supplemental Nomination of Galveston Bay as an Estuary of National Significance.</u></p> <p>July EPA Administrator Lee Thomas convenes Management Conference for Galveston Bay.</p>
Sept.	<p>National Estuary Program (NEP) grant award of \$227,318 (\$150,000 federal + \$77,318 state match) for Galveston Bay made by EPA Headquarters. Project/budget period of 9/15/88-9/14/89.</p> <p>Developed a brief summary of the Galveston Bay project in preparation for the signing ceremony (see below). Information included first year outputs, proposed program office, and Management Conference committee structure.</p> <p>Signing ceremony for the <u>State/EPA Conference Agreement for NEP Designation Under the Water Quality Act of 1987</u> held aboard the tall ship, Elissa. Robert E. Layton, Jr., Regional Administrator, EPA Region 6 and Allen Beinke, Executive Director, TWC.</p>
Oct.	<p>NEP grant signed by Allen Beinke, Executive Director, TWC</p> <p>Letter from Allen Beinke to Frederick L. Meadows, Chief, Grants Operation Branch, EPA Head-quarters, indicating conditional acceptance of the NEP Assistance Agreement provided that Special Conditions #11 and 12 are removed and replaced with a new condition.</p> <p>Advertisement for the Galveston Bay Program Manager position posted.</p>
Nov.	<p>Provided an information packet on the Galveston Bay Estuary Program to the Chief Clerk's office, TWC. Information included a copy of Section 320 of the Clean Water Act, as amended; the interim final rule on State and Local Assistance drafted by EPA; the grant agreement; and the Governor's nomination package. A status report on the program manager position was also provided.</p>

APPENDIX 1 (Continued)

Date	Planning Initiative Work Element
1988 Nov.	<p>Letter from Beinke to Mr. T. C. Adams, Governor's Office, commenting on the final EIS for the Galveston Bay Area Navigation Study (GBANS) proposed by the Corps of Engineers to widen deepen the Houston Ship Channel.</p> <p>Letter from Beinke to Meadows transmitting signed acceptance of Amendment No. 1 to the Cooperative Agreement which reflects the modification of the Special Conditions.</p> <p>Press release announcing the appointments to the Policy and Management Committees by Governor Clements.</p>
Dec.	<p>Letter from Buck Wynne, Chairman, TWC and Policy Committee, to Policy Committee members congratulating them on their appointment and announcing the time and location of the first meeting. Agenda and resource material were included.</p> <p>Letter from Clyde Bohmfalk, Director, Water Quality Division, TWC and Vice-Chairman of the Management Committee members congratulating them on their appointment and transmitting the Governor's nomination package and a meeting announcement.</p> <p>Finalized Intergovernmental Personnel Act (IPA) Agreement with EPA, Region 6 for a six-week detail of EPA employee to TWC to assist with Galveston Bay Estuary Program.</p>

APPENDIX 1 (Continued)

Date	Planning Initiative Work Element
1989 Jan.	<p>Initial Policy Committee meeting (Buck Wynne, III, Chairman). Planning initiated for committee organization, advisory committee nominations, ancillary funding, required products and deadlines for FY 89, and open meetings policy was discussed.</p> <p>Letter from Policy Committee Chairman Buck Wynne to Governor Clements requesting the cap on Earned Federal Funds be raised by \$200,000 to help finance the GBNEP.</p> <p>Initial Management Committee meeting (Myron O. Knudson, Chairman). Members received program briefings, and agenda included review of the Governor's Nomination, Priority Problems and Goals, the FY 89 Time Line, the One-year and Five-year Workplans, Public Participation Plan, and DIMS. Nominations and Procedures were discussed for advisory committees, and ancillary funding was considered.</p> <p>Meeting of Management Committee. Revised bylaws adopted, final recommended nominee lists approved for Scientific/Technical Advisory Committee and Citizens Advisory Steering Committee. Priority Problems list recommended as working list for Policy Committee approval for EPA March 1 deadline.</p>
Feb.	<p>Dr. Frank S. Shipley hired as Program Manager, from among 22 applicants.</p> <p>Policy Committee Meeting. Frank Shipley was introduced as new Program Manager. Open meetings act requirements were discussed and Management Committee activities were summarized. The S/TAC nominee list was approved with addition of a Texas Railroad Commission member to be named. The CASC nominee list was approved as asked for forwarding to the Governor. Recommended Priority Problems and Goals were approved as working versions. The Committee instructed Frank Shipley to recommend a permanent Program Office location for approval at the next meeting. Proposed program logos were reviewed, and a Public Meeting concerning Priority Problems was approved.</p> <p>Job opening for Public Participation Director posted by Program Manager. Position to be located in Galveston/Houston area.</p>

APPENDIX 1 (Continued)

Date	Planning Initiative Work Element
1989 Feb.	<p>Letter from Governor Clements to Buck Wynne delegating Buck Wynne the authority and responsibility of appointing members to the Scientific/Technical Advisory Committee and Citizens Advisory Steering Committee.</p> <p>Letter from Buck Wynne to Policy Committee members notifying them about the Governor's delegation of appointments and requesting nominees for the Citizens Advisory Committee and Local Governments Advisory Committee.</p> <p>First Draft of Five-year Management Conference Agreement completed by Program Manager based on EPA OMEP guidance.</p>
March	<p>Letters of appointment sent to all S/TAC and CASC approved nominees by Buck Wynne, requesting reply by March 13, 1989.</p> <p>Program status report prepared by Program Manager for Representative Frank Collazo and Texas Legislative Budget Board to support state matching appropriations.</p> <p>Meeting held with Frank Shipley (Program Manager), Lore Hantske (EPA OMEP), and Ken Teague (EPA Region VI) concerning Five-year Management Conference Agreement. New OMEP guidance for five-year Management Conference Agreement required Agreement to be re-written by Program Manager.</p> <p>Public Participation Director applicants interviewed by Program Manager.</p> <p>Letter to all Management Committee members from Committee Chairman Myron Knudson reporting conference progress, scheduling a meeting on April 12, and requesting that CAC and LGAC nominees be forwarded to the Program Manager.</p> <p>New draft of Five-year Management Conference Agreement completed based on new OMEP guidance.</p> <p>Proposed draft FY 90 project descriptions completed, with approximate funding levels.</p>

APPENDIX 1 (Continued)

Date	Planning Initiative Work Element
1989 March	<p data-bbox="470 424 1457 488">Kevin Hamby hired as Public Participation Director by Program Manager from among 60 applicants.</p> <p data-bbox="470 526 1457 629">Letter from Myron Knudson (Chairman, Management Committee) to Texas Legislative Budget Board supplying program information to support state matching appropriations.</p> <p data-bbox="470 667 1457 874">Initial meeting of the S/TAC, Dr. Sammy Ray, Chairman. Orientation presentations by EPA and Program Office personnel. Consideration of Priority Problems List, Goals, Five-year Management Conference Agreement, Proposed FY 90 scientific/technical projects and other future committee business. Appointment of subcommittees for work on critical projects required for funding. Future regular meetings scheduled.</p> <p data-bbox="470 911 1457 1081">Initial meeting of CASC, Sharron Stewart, Chairwoman. Orientation presentations by EPA and Program Office personnel. Consideration of Priority Problems List, Goals, Five-year Management Conference Agreement, Proposed FY 90 public participation projects, April 10 Public Meeting, and other future committee business. Future regular meetings scheduled.</p> <p data-bbox="470 1118 1457 1183">Letter from Buck Wynne to Policy Committee members, reporting conference progress.</p>
April	<p data-bbox="470 1228 1219 1253">Photographic work for GBNEP slide presentations begun.</p> <p data-bbox="470 1299 1457 1431">Public meetings held to report GBNEP progress and request oral and written comments on projects and Galveston Bay Priority Problems list. Attendance was about 50 individuals at each of two meetings, with numerous comments submitted.</p> <p data-bbox="470 1477 1457 1609">Management Committee meeting held. The five-year Conference Agreement and FY 1990 workplan were both recommended to the Policy Committee with minor revisions. A list of Local Governments Advisory Committee (LGAC) nominees was recommended.</p>

APPENDIX 1 (Continued)

Date	Planning Initiative Work Element
1989 April	<p data-bbox="488 482 1474 551">An Action Plan Demonstration Project concerning Coastal Preserve Status for Armand Bayou and Christmas Bay was recommended.</p> <p data-bbox="488 586 1474 758">Policy Committee meeting held. The five-year Conference Agreement and FY 1990 Workplan were approved for submission to EPA OMEP. LGAC nominees were approved. Approval was given for establishing the Program Office at the University of Houston Clear Lake, for the hiring of additional Program staff, and for a budget revision to establish the Program Office.</p>

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