

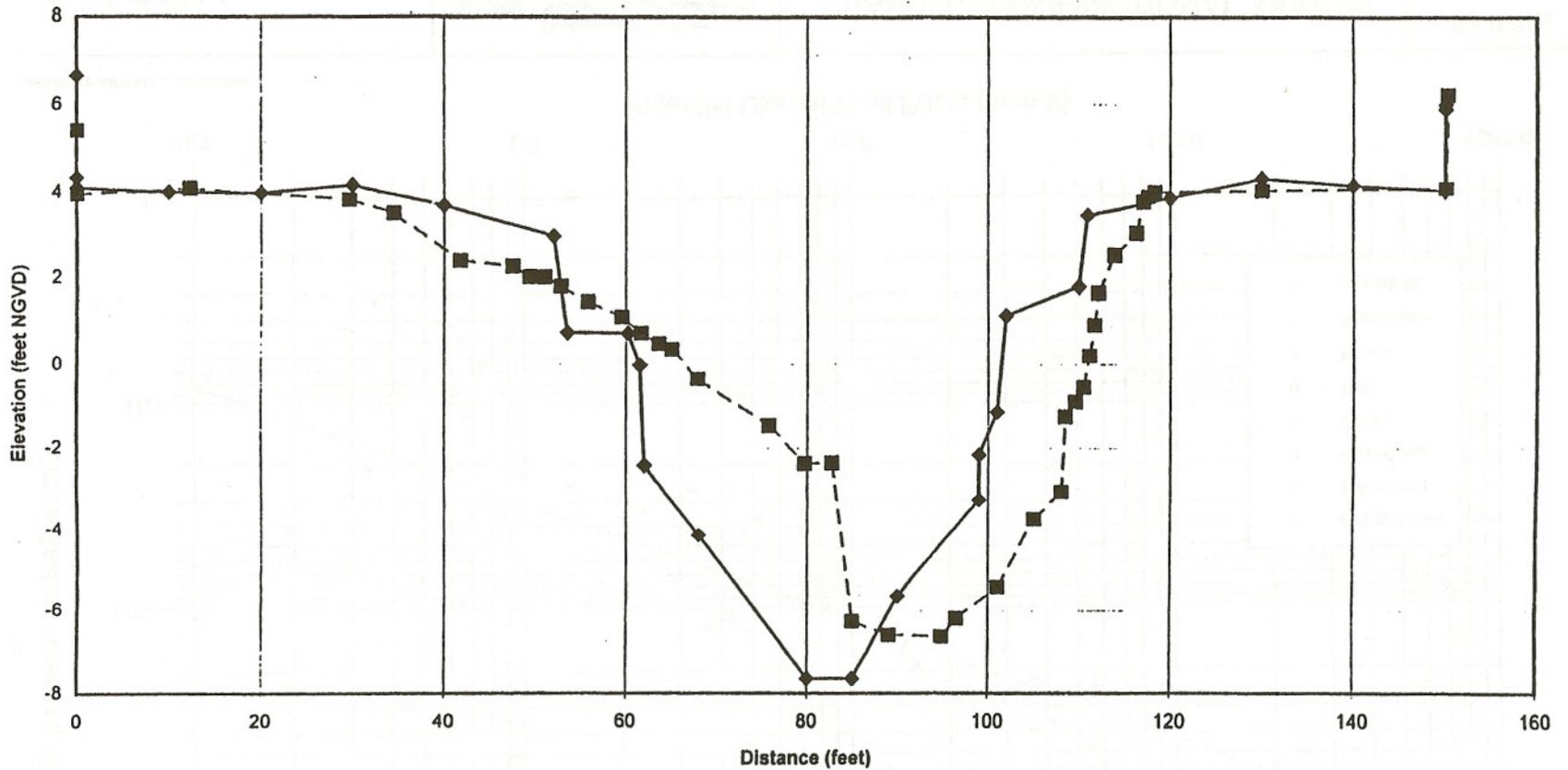
CKCHYDQBOM/TPX984KQR1/7-27-84



Department of the Army
 Waterways Experiment Station
 US Army Corps of Engineers
 PO Box 631
 Vicksburg, Mississippi 39180

**CHANNEL CROSS-SECTIONAL AREA VS.
 TIDAL PRISM IN TIDAL SLOUGHS**

**FIGURE
 23**



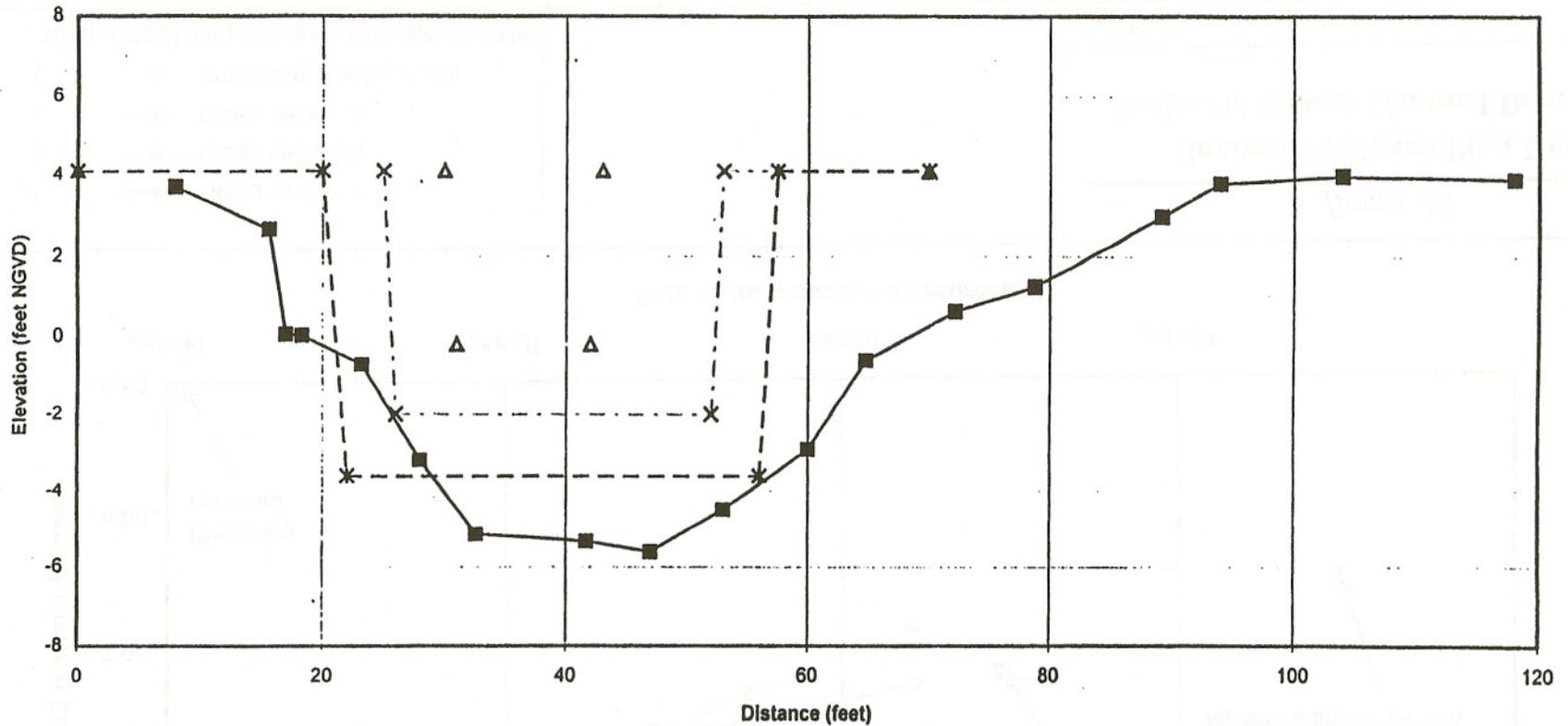
—◆— January-91
 - -■- March-98

figure 24

**Greenpoint Marsh
Slough Channel Cross Section**



PWA#: 1154



- △ May-90
- × Nov-90
- * - Dec-90
- Aug-95

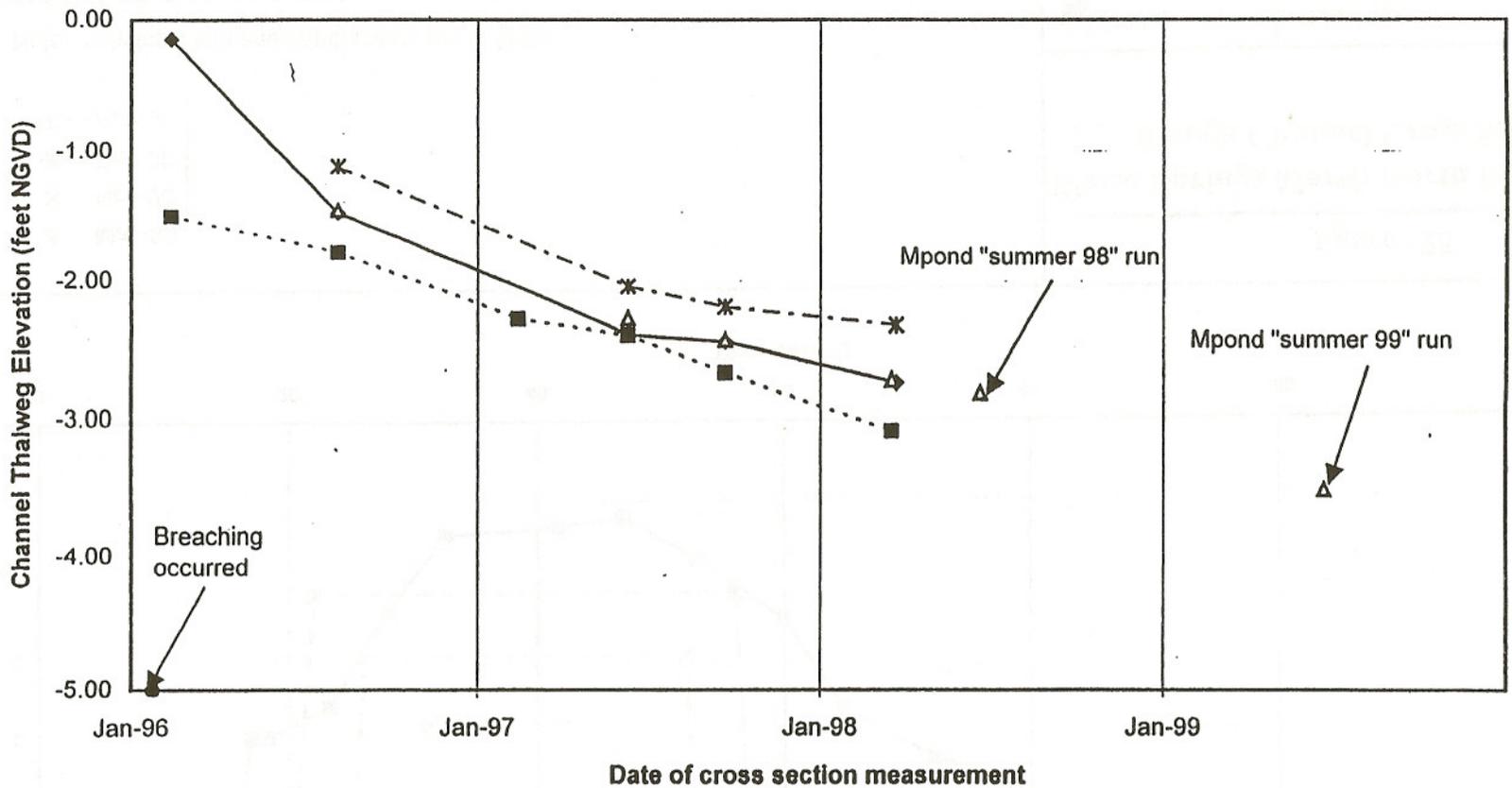
Note: only top width and depth measured in 1990

figure 25

**Warm Springs Marsh North Breach
Slough Channel Cross Section**



PWA#: 1154



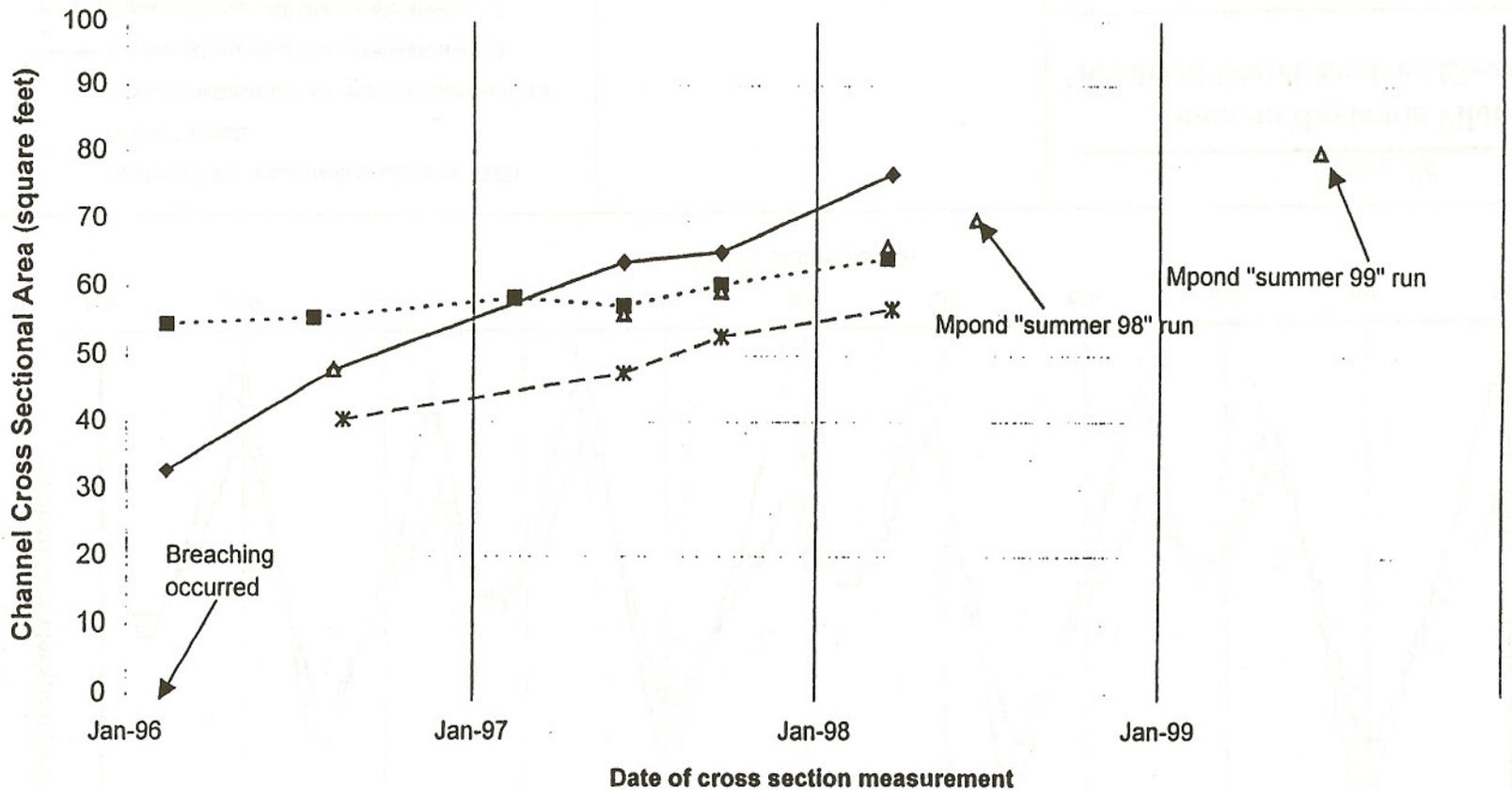
- ◆— Cross section 1
- Cross section 6
- *- Cross section 9
- △ trend of increasing depth

March 1998 data is preliminary and subject to review.



PWA#: 1154

figure 26
**Sonoma Baylands Pilot Unit
 Projected Slough Channel Depth**



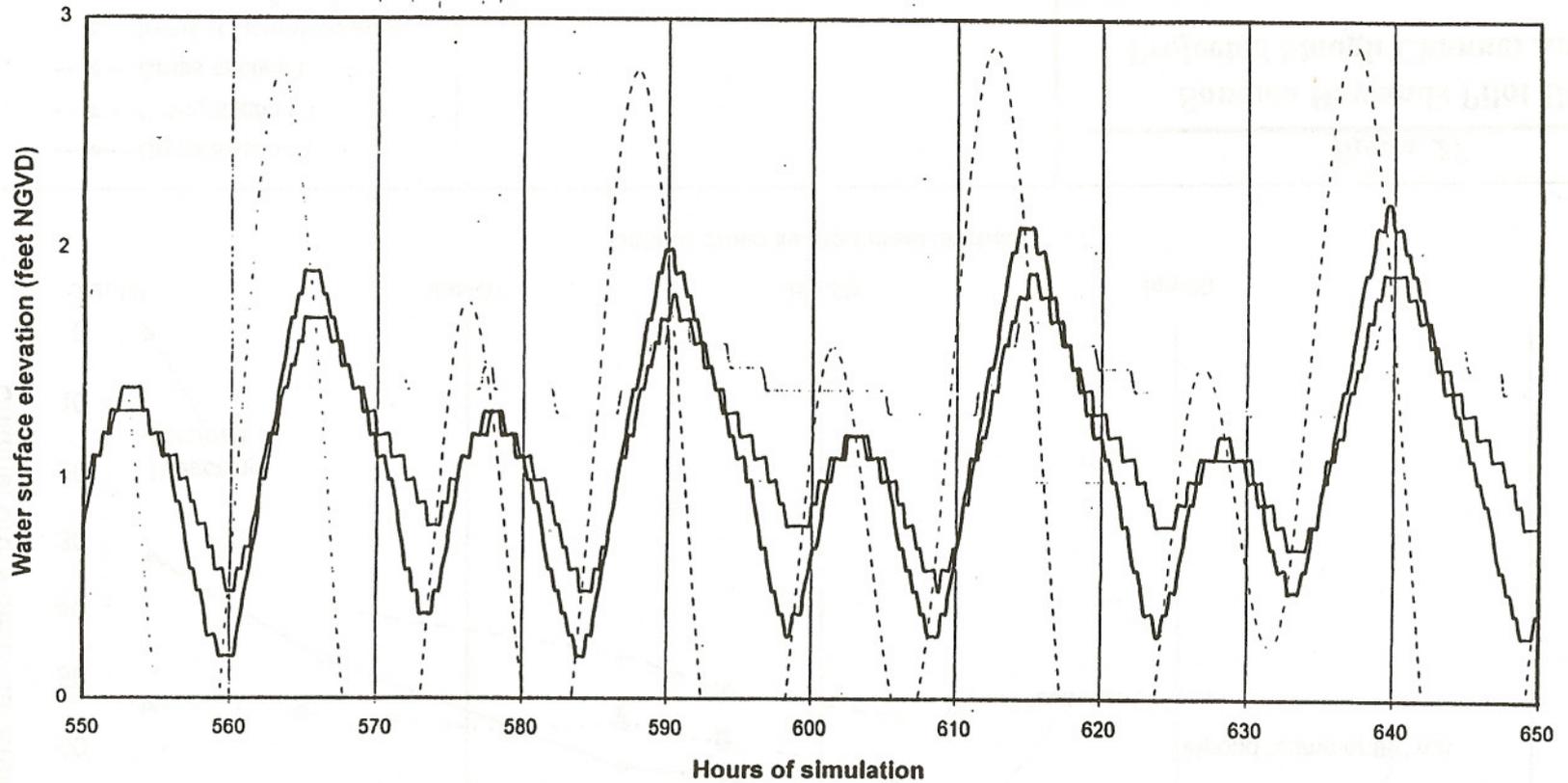
- ◆— Cross Section 1
- Cross Section 6
- *-* Cross section 9
- △ trend of increasing area

March 1998 data is preliminary and subject to review

figure 27
**Sonoma Baylands Pilot Unit
 Projected Slough Channel Area**



PWA#: 1154



Petaluma Tides (input starting August 14, 1997)

Pilot unit actuals

Current conditions with sill, channel elevation = -0.2

— Summer 98 projected channel elevation = -2.8

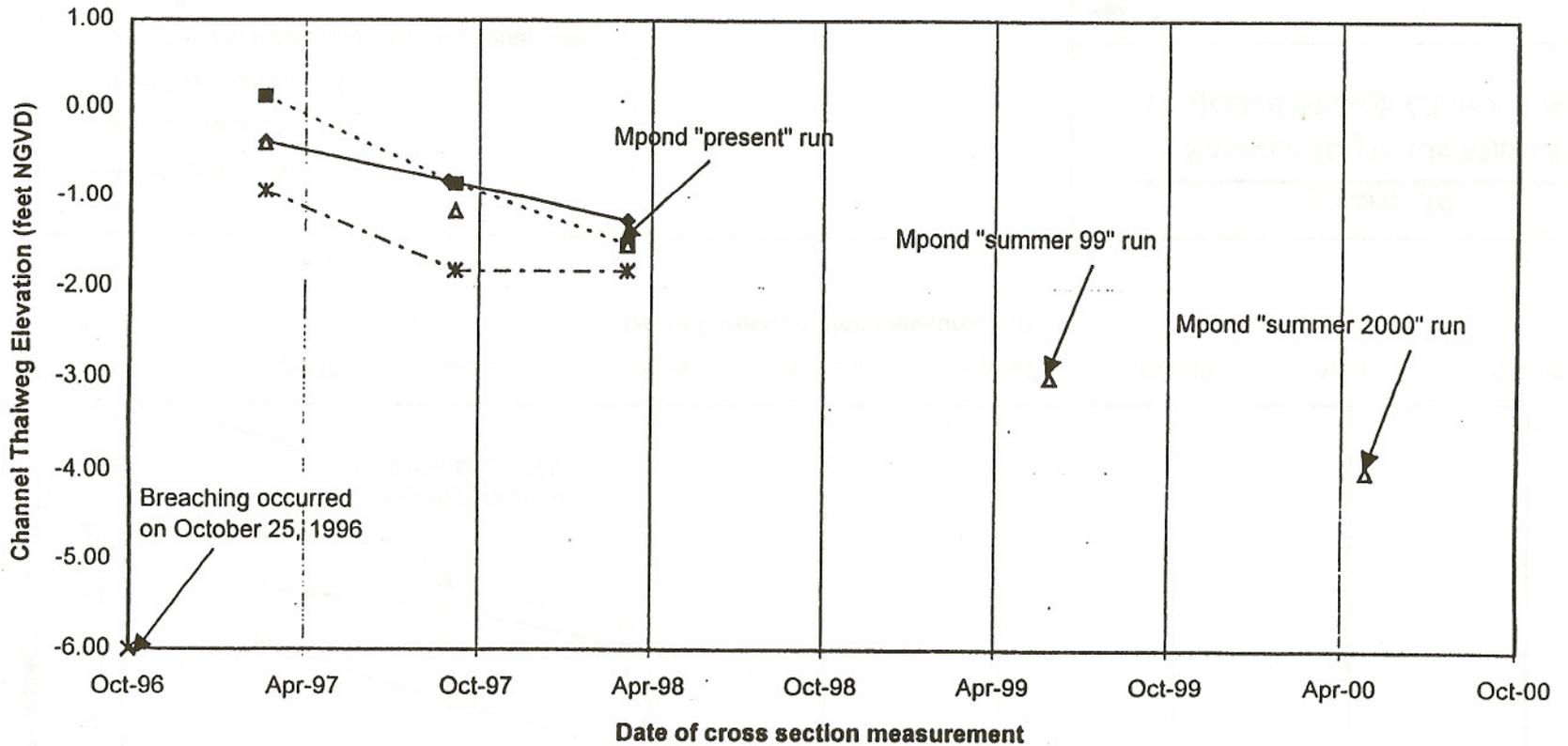
— Summer 99 projected channel elevation = -3.5

figure 28

**Sonoma Baylands Pilot Unit
Modeled Water Surface Elevation**



PWA#: 1154



- ◆ — Cross section 8
- - - - Cross section 13
- * - - - Cross section 15
- △ trend of increasing depth

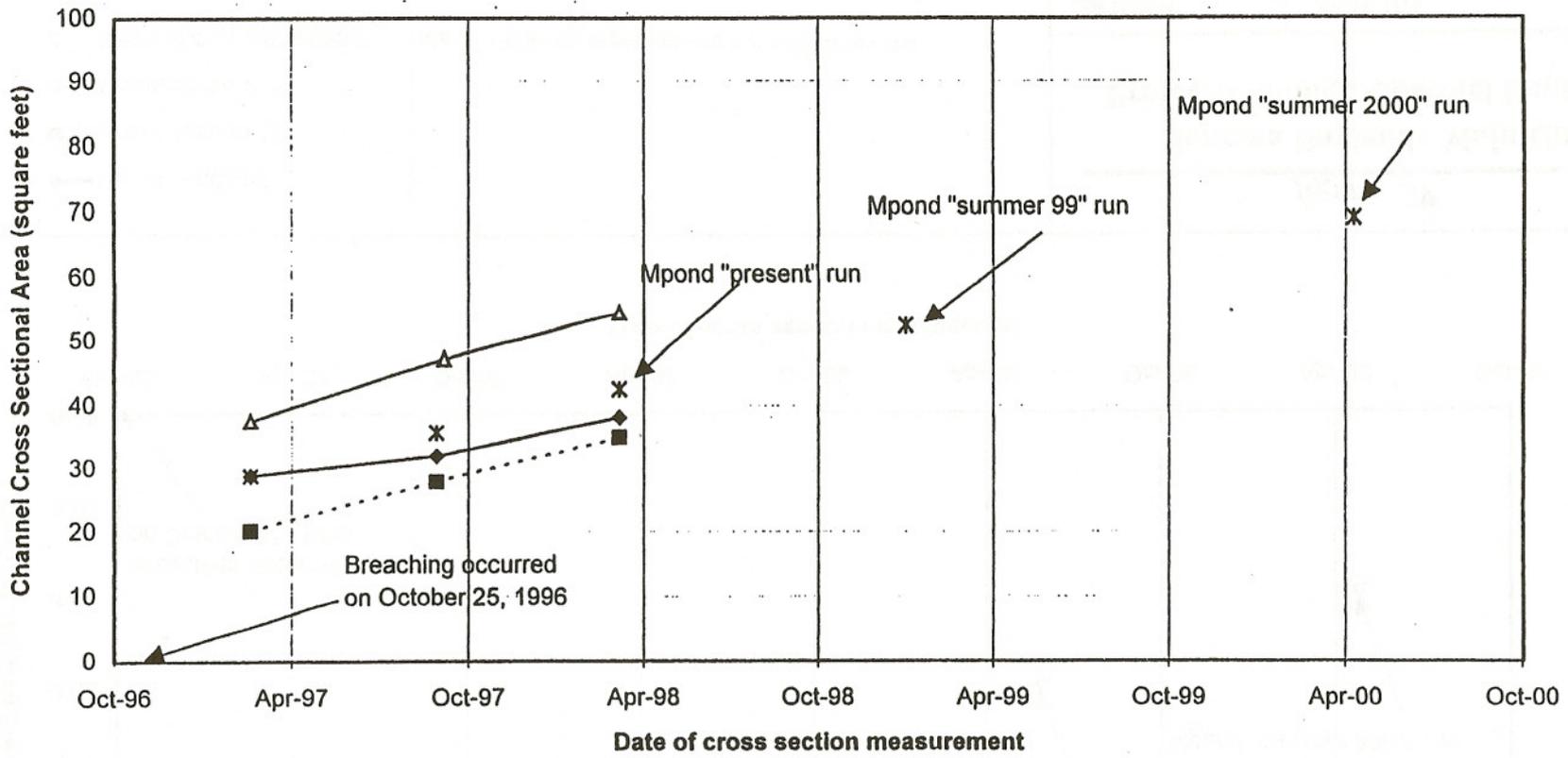
March 1998 data is preliminary and subject to review.

figure 29

**Sonoma Baylands Main Unit
Projected Slough Channel Depth**



PWA#: 1154



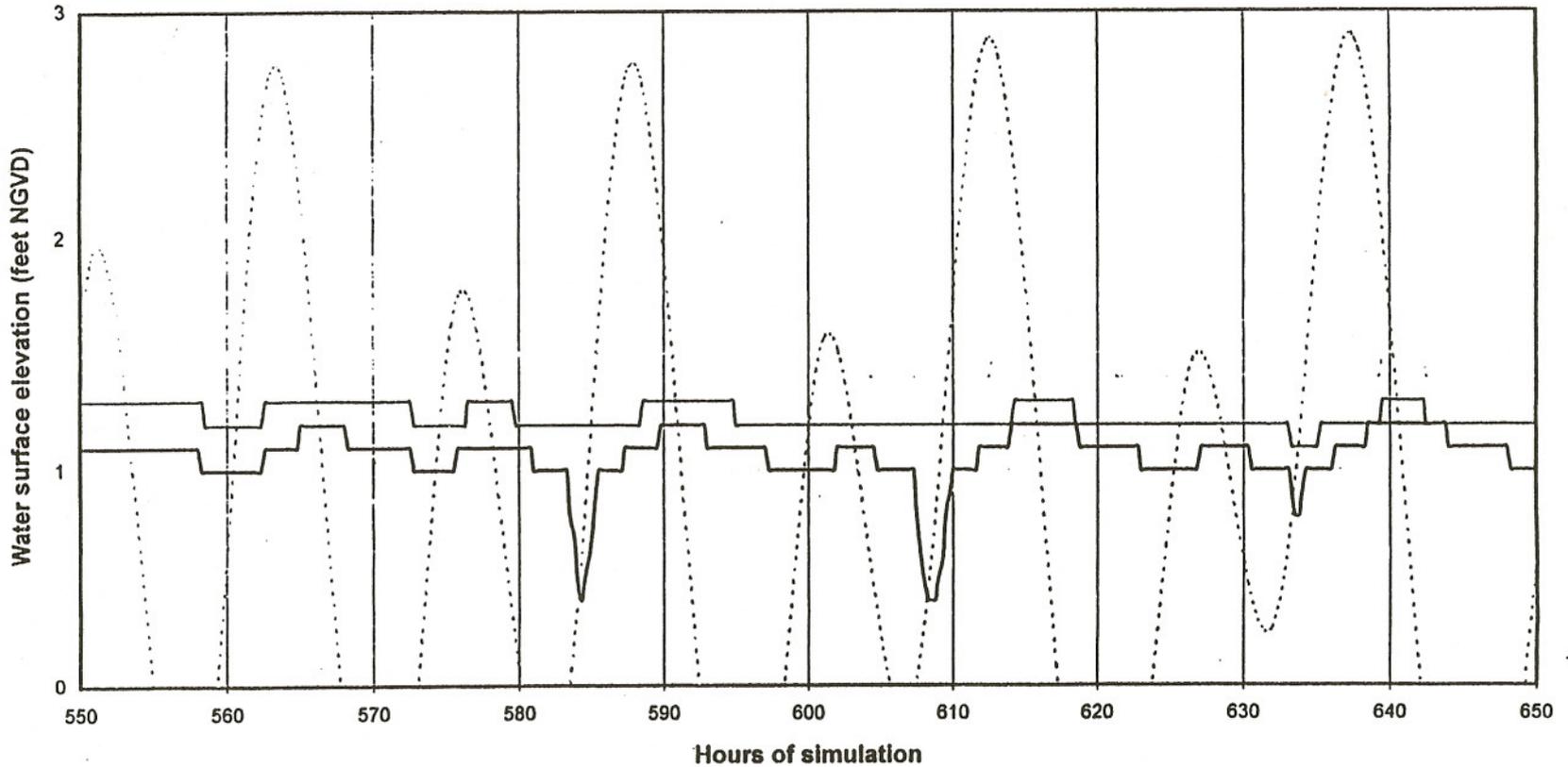
- ◆ Cross section 8
- Cross section 13
- ▲ Cross section 15
- * trend of increasing cross sectional area

figure 30
**Sonoma Baylands Main Unit
 Projected Slough Channel Area**



PWA#: 1154

March 1998 data is preliminary and subject to review.



Petaluma Tides (input starting August 14, 1997)

"Present" conditions - XC 8 channel dimensions

— Summer 1999 projected channel elevation = -3

— Summer 2000 projected channel elevation = -4

figure 31

**Sonoma Baylands Main Unit
Modeled Water Surface Elevation**



PWA#: 1154

Appendix M

Information on the Dredged Material Management Office (DMMO):

- (1) LTMS General Operating Principles for a Pilot DMMO**
- (2) DMMO 6-Month Pilot Phase Review Report (3/28/97)**
- (3) DMMO Second 6-Month Pilot Phase Review Report (1/98)**

Long Term Management Strategy

September 12, 1995

General Operating Principles

Pilot Dredged Material Management Office (DMMO)

Goals

To establish a cooperative permitting framework as part of LTMS implementation that reduces redundancy and unnecessary delays in permit processing and increases consensus decision-making among agency staffs, while assuring that: (1) the laws and policies of the member agencies will be fully implemented; (2) full public review and input to the decision making process will be maintained; and (3) projects will be managed in an environmentally and economically sound manner.

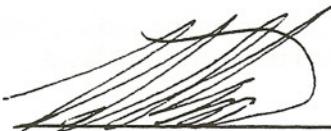
Objectives

- Combined application form for maintenance dredging applications.
- Coordinated staff processing of all dredging permit applications.
- Preparation of joint staff recommendations on: (1) sediment quality sampling and analysis plans; (2) suitability calls for disposal; and (3) approval or denial of permits (including disposal location, timing, and other permit conditions).
- Increased beneficial use of dredged material.
- Creation of a shared database for dredging project and disposal site monitoring information.

General Operating Principles

1. The DMMO is a cooperative activity of the participating agencies.
2. Agency staffs will coordinate processing of pilot permit applications by the agencies, subject to the applicable laws and requirements of each agency.
3. Agency staffs will make a combined decision regarding sediment quality sampling and analysis plans, and suitability for disposal of pilot applications.
4. Agency staffs will work towards a single staff recommendation on substantive aspects of pilot permit applications, including disposal locations and proposed special conditions.
5. Agency staffs will support the consensus recommendation made through the DMMO that affect projects within their permit jurisdictions, subject to final approval by agencies.
6. Agency staffs will improve and refine the joint-agency application form for maintenance dredging permits.
7. The program will accommodate the policies and laws of the participating agencies.
8. The pilot program policies will be based on agreements and policies reached as part of the LTMS whenever possible.
9. The administrative process for processing permits as part of the pilot project will be defined by mutual agreement of agency staffs and documented in a Memorandum of Understanding.
10. Full public input to the permit process as part of the pilot project will be ensured, and the pilot project itself will be subject to full public review and comment.

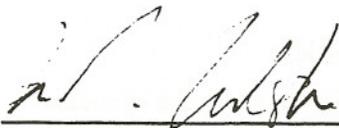
11. Agencies will implement the DMMO formulated through the pilot program, subject to review and approval by the decision makers at each agency after public review and comment.
12. One of the agencies will act as the "host" agency in order to provide a single point of contact for applicants and to provide necessary logistical support. That agency is presently the U.S. Army Corps of Engineers. Logistical support will include providing meeting space; preparing agendas; preparing meeting minutes; distributing information among participants, applicants, and interested parties; and maintaining files.
13. A combined database will be created to share information among the agencies, applicants, and interested parties.
14. The project will be expanded over time, as appropriate, to coordinate agency processing of all dredging and disposal permit applications, disposal site monitoring, and other important regulatory aspects of LTMS implementation.
15. This document will stay in effect until it is superseded through adoption of Memoranda of Understanding or other appropriate instruments by the member agencies.



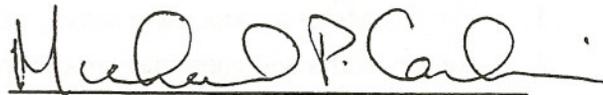
WILL TRAVIS
San Francisco Bay Conservation &
Development Commission



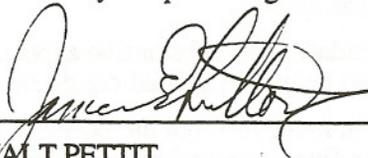
AMY ZIMPFER
U.S. Environmental Protection Agency



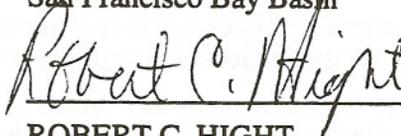
LT. COL. MICHAEL J. WALSH
U. S. Army Corps of Engineers



LARRY KOLB
Regional Water Quality Control Board
San Francisco Bay Basin



WALT PETTIT
State Water Resources Control Board



ROBERT C. HIGHT
State Lands Commission

DREDGED MATERIAL MANAGEMENT OFFICE (DMMO)
SIX MONTH PILOT PHASE REVIEW REPORT



March 28, 1997

*Long-Term Management Strategy (LTMS) for the Placement of Dredged Material
in the San Francisco Bay Region*

San Francisco Bay
Conservation and
Development
Commission

California
State Lands
Commission

California State
Water Resources
Control Board

US Army
Corps of
Engineers

US Environmental
Protection Agency

San Francisco Bay
Regional Water
Quality Control
Board

LONG TERM MANAGEMENT STRATEGY



One-Stop Shop Cuts Red Tape to Move Mud out of Bay Channels

A new "one-stop shop" to cut red tape for dredging projects in San Francisco Bay is demonstrating good results while ensuring environmental protection. A review by the participating agencies of the "Dredged Material Management Office" or "DMMO" found that the program has processed over 60 applications for dredging more than 4.3 million cubic yards of material (roughly equivalent to 430,000 dump truck loads) in the last year and a half. Applicants using the DMMO fill out one application instead of four, as was the case in the past. The five agencies participating in the DMMO then jointly review the applications and supporting information at bi-weekly meetings before issuing their respective permits.

A noteworthy finding of the report is that only three percent of the dredged material failed standardized testing for open-water disposal. It had been widely assumed that up to twenty percent of Bay dredged material would fail such testing.

The DMMO is a joint program of the San Francisco Bay Conservation and Development Commission (BCDC), the San Francisco Bay Regional Water Quality Control Board, the State Lands Commission (SLC), the U.S. Army Corps of Engineers (USACE), and the U.S. Environmental Protection Agency (USEPA). A pilot program was initiated to determine whether and how a permanent DMMO should be established. The report prepared by the participating agencies evaluated the status of the approximately 18 month-old pilot project.

Quotes from each agency:

"This project has created a virtual one-stop permit application for Bay dredging," said Will Travis, Executive Director of BCDC. "I don't know of any place else where you can apply for all your state and federal permits by filling out one application."

"The DMMO is a good example of what can be achieved through cooperation. It shows why the Bay Area is in the forefront of moving from traditional regulatory approaches to more cooperative approaches to problem solving."- Loretta Barsamian, Executive Officer, SFRWQCB.

"We're committed to an efficient, environmentally sound review of all dredging applications, and in the long run helping applicants find beneficial reuse options for their dredged material," said Alexis Strauss, head of the Water Division of Region IX of the USEPA.

"The Dredged Material Management Office in the San Francisco Bay Area can serve as a model for how federal and local agencies can synchronize the administration of their regulatory responsibilities to protect the environment while minimizing the administrative burdens on permit applicants," stated Lieutenant Colonel Richard Thompson, Commander of the San Francisco District of the USACE.

BCDC press contact - Steve Goldbeck (415) 557-8786

SFRWQCB press contact - Wil Bruhns - (510) 286-0838

SLC - Mary Howe (916) 574-1839

USEPA press contact - Erika Hoffman - (415) 744-1986

DREDGED MATERIAL MANAGEMENT OFFICE (DMMO)
SIX MONTH PILOT PHASE REVIEW REPORT

PILOT PROGRAM OF THE DREDGED MATERIAL MANAGEMENT OFFICE
(DMMO)

SIX MONTH PILOT PHASE REVIEW REPORT
March 28, 1997

I. INTRODUCTION AND PURPOSE OF THE DMMO

The multi-agency Pilot Program of the Dredged Material Management Office (DMMO) was established to foster a comprehensive, and consolidated approach to handling dredged material management issues in order to reduce redundancy and delays in the processing of dredging permit applications. The DMMO, in part, grew out of the Long Term Management Strategy Program (LTMS) as an effort to better coordinate and shorten the permit application process for dredging and disposal projects occurring in the San Francisco Bay region. The San Francisco Bay Regional Water Quality Control Board (RWQCB), State Water Resources Control Board, San Francisco Bay Conservation and Development Commission (BCDC), United States Environmental Protection Agency (EPA) and the United States Army Corps of Engineers, South Pacific Division and San Francisco District (COE) are signatories to the LTMS program.

This DMMO coordination effort has been several years in the making, first through the development stage under the LTMS, and then following the findings of the LTMS Implementation Committee which examined the issue of permit streamlining. The Committee formed a task group to draw up a process for a "one stop" permit approach for dredging permits. In 1992, the task group drafted a permit streamlining initiative with general goals and objectives. In 1995, the LTMS agencies decided to form a pilot DMMO, under existing authorities and budgets. The DMMO member agencies are the EPA, COE (San Francisco District), RWQCB, BCDC and the California State Lands Commission (SLC). The COE agreed to initially act as the "host" of the DMMO and take on responsibilities associated with the lead role. The DMMO is intended to implement, the fourth goal of the LTMS which is to provide "recommendations for federal, state and local agencies to implement a cooperative permitting process for authorizing dredging activities."

The sole intent of the DMMO is to improve the dredging permit process within existing law, regulation and policy. No new regulatory statutes were initiated in the formation of the DMMO. All applicable regulatory authority and processes of the member agencies remain in full force and effect. The DMMO process was specifically designed to avoid imposing any limitations or interference with existing opportunities and requirements for public input and involvement in the various dredging permit review and granting processes.

The geographic area of the DMMO includes all of the San Francisco Bay Estuary up to Shennan Island, its major tributaries up to points where navigation is no longer feasible, upland areas surrounding the estuary, and the ocean disposal sites for Bay material designated by the EPA. The member agencies have also agreed to coordinate with the Central Valley Regional Water Quality Control Board regarding use of Bay dredged material in the Sacramento/San Joaquin Valley region.

A Memorandum of Understanding (MOU) for the Pilot DMMO was signed by all member agencies on July 9, 1996 (see attachment). In accordance with the terms of the MOU, at the end of each of two six-month pilot phases, the member agency staff are required to prepare a report to the Dredging Management Committee (consisting of management representatives of the DMMO member agencies) on the progress and success of the DMMO. This report contains an analysis of the successes, problems, relevant issues, and recommendations for further actions. The report generally describes the overall history and activities of the DMMO and specifically discusses the initial six-month pilot phase of July, 1996 to January, 1997. Following a review of this report, the Dredging Management Committee shall decide whether to continue with the DMMO, and revise, as necessary, the conditions under which the office will operate.

II. DMMO DEVELOPMENT PERIOD (January 1995 - July 1996)

January 11, 1995 - May 3, 1995 - Three organizational meetings for the DMMO were held between January 11, 1995 and May 3, 1995. During this period the member agencies were identified and the basic role of the DMMO was discussed and formulated.

May 3, 1995 - September 12, 1995 - Between the period May 3, 1995 and September 12, 1995 the newly formed DMMO held six scheduled meetings and undertook several concurrent activities. These activities included the preparation of a set of General Operating Principles and the design of a consolidated dredge permit application. The General Operating Principles were formally adopted by all participating agencies on September 12, 1995, (see attachment). The Consolidated Dredging-Dredged Material Reuse/Disposal Permit Application and associated instructions were initially prepared in June, 1995. The consolidated application has been used by many projects and updated based on feedback from applicants with the latest revision occurring in November, 1996 (see attachment). During this period the DMMO also selected and designated a DMMO pilot project for initial testing of the consolidated application form and joint processing by the DMMO agencies. The first pilot project was for maintenance dredging of the San Francisco Yacht Harbor (COE Public Notice No. 21724N47 dated September 18, 1995, COE permit issued April 2, 1996).

Investigation into an appropriate data management system for permitting information and testing data was initiated in May 1995. An analysis of the existing data management systems of the DMMO member agencies and the potential for development of a common system was prepared for the DMMO by a COE contractor (Ogden Environmental and Energy Services), in June 1995. Availability of funding for the operation and maintenance was identified as the most important factor limiting the establishment and scope of a common data base.

September 12, 1995 - July 9, 1996 - During the period September 12, 1995 to July 9, 1996 the DMMO held 18 scheduled meetings and prepared and executed the MOU, undertook the selection, designation and processing of two additional designated DMMO pilot projects, expanded the DMMO process to include participation by other agencies, and jointly reviewed other dredging projects.

The two additional pilot projects selected were the Emery Cove Marina maintenance dredging project (COE Public Notice No. 21662S49 dated February 2, 1996, COE permit issued May 8, 1996), and the Paradise Cay Yacht Harbor project (COE Public Notice No. 21821N dated October 11, 1996, COE permit pending). During the same period, nine additional projects were evaluated by the DMMO although these projects did not use the consolidated application form.

A letter was prepared by the DMMO staff to request other resource agencies to participate in DMMO meetings and activities. The letter, issued under COE signature, on behalf of all the DMMO agencies was sent in April 1996 to the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the California Department of Fish and Game. The California Department of Fish and Game has been a regular participant, with the other agencies expressing support, but only occasionally participating in DMMO meetings due to staffing and budgetary limitations.

III. INITIAL SIX-MONTH PILOT PHASE ACTIVITIES/ACHIEVEMENTS (July 9, 1996 - January 9, 1997)

Coordination of the dredging permitting process to decrease redundancy and increase efficiency is a principal purpose of the DMMO. The de-facto permitting system for dredging and disposal can be lengthy and complex and consists of six federal and state agencies that issue a permit, or other legal approval. In addition, federal and state law require that resource agencies comment on many of the permit actions and consider endangered species impacts under their own jurisdiction (Section 7 Consultation). The actual number of permits and type of approvals depend upon the location of the dredging and disposal sites, ownership of the project area, and whether the project requires new permits or is considered an episode under existing permits.

In addition to the review and issuance of permits, the suitability determination for the disposal of dredged material often requires agency interpretation of an extensive battery of tests which characterize the physical, chemical, and biological nature of the sediment proposed for dredging. During the first six-month pilot phase of the DMMO, joint staff of the DMMO member agencies have made recommendations on the approval, modification or denial of:

- a. Sampling and Analysis Plans (SAP);
- b. Results of testing pursuant to an approved SAP;
- c. Consolidated Permit Application completeness; and
- d. Material suitability for disposal at existing in-bay disposal sites, or the ocean disposal site (DMMO staff members will sign a DMMO recommendation for a given disposal site only if they have regulatory authority for that site).

The DMMO agency staff have supported the consensus recommendations made through this project review process. Actions and recommendations made by the DMMO have been documented in the minutes of the meetings and through member agency correspondence.

Project Review - In addition to processing the three formally designated "DMMO pilot projects" used to test the consolidated application form, a total of 22 other projects were fully evaluated by the DMMO during the initial six-month pilot phase. Full processing refers to DMMO review of an applicants Sampling and Analysis Plan or Tier I sediment quality analysis testing exemption, review of the Sediment Quality Analysis Results, and review of a submitted DMMO application. A listing of all projects reviewed is provided as an attachment to this report.

Although not formally part of the Pilot Program, as described by the MOU, the DMMO agencies have utilized the opportunity of the bi-monthly DMMO meetings to review and approve the U.S. Army Corps of Engineers maintenance dredging projects which have occurred since the DMMO was initiated. Corps projects which have been reviewed, or are under review by the DMMO include: Port of Oakland Inner Harbor maintenance dredging (1995 and 1996); Port of Richmond maintenance dredging; Suisun Channel maintenance dredging (Tier I review); and San Rafael Across the Flats channel maintenance dredging. Additionally, the DMMO reviewed and approved the Alameda U.S. Navy Air Station's 1996 Maintenance Dredging Project.

DMMO Timelines - The DMMO jointly developed a draft DMMO Flowchart and Timeline Goals for Maintenance Dredging Projects (see attachment). These timelines were developed to present the DMMO process and to reflect the joint effort to reduce permit processing time and streamline and expedite the review process.

Public Notice 96-3 - A joint Public Notice was prepared by the DMMO staff to announce the initiation of the DMMO pilot phase . The Public Notice contains a description of the DMMO, the Consolidated Permit Application form and instructions, the DMMO MOU, the DMMO General Operating Principles, and the DMMO Draft Timelines. PN 96-3 was dated October 1, 1996 and was distributed via the COE permit review mailing list and to other interested parties.

Standard Language for Public Notices and DMMO Correspondence - Standard language for representing the consensus recommendations of the staff was developed to be used by the host agency in official DMMO correspondence and in Public Notices, The use of standard language is particularly important in this context to insure that suitability determinations are consistently and clearly communicated to applicants and the public in a form that is acceptable to all the participating agencies.

Development of a Data Base for Permit Information - In accordance with the MOU, the DMMO "host" agency is to maintain an electronic database of permit information fro DMMO projects. The COE is currently in the process of developing a means to incorporate permit information into its existing "RAMS" data base. This information will be made available to the public through a DMMO web site. The information at this web site will be project specific (e.g., location, dimensions and volume of project; proposed disposal site; permit numbers, approval/review status; and

updated on a regular basis by the COE. There are currently no plans to incorporate results of chemical, physical and biological testing into this data base.

Sampling and Analysis Plan (SAP) Template - Under the direction of the EPA representative to the DMMO, the development of a template to guide applicants and consultants in the preparation of a SAP was initiated. The SAP template is currently in a preliminary draft form and undergoing review and revision by the DMMO.

IV. DMMO PILOT PHASE PROBLEMS AND RECOMMENDED ACTIONS

The MOU directs that each pilot phase report contain an analysis of issues that arose during the pilot and recommendations for further actions to be reviewed and approved by the Dredging Management Committee. Each member agency was responsible for preparing an issue paper which outlined their agency's concerns with the DMMO process, and suggesting changes to the process that would address those concerns. These issue papers were distributed among the DMMO agencies for review and serve as the basis for the summarized issues and recommended actions that appear below.

1. Issue: Internal DMMO communications, minutes and agendas. Agendas and meeting minutes often have been distributed late, making it difficult for member agencies to provide comments and/or adequately prepare for the next scheduled meeting.

Recommended Action: As outlined under item six in Section 11(f) of the MOU, draft meeting minutes will be distributed within five (5) days of the meeting date. Establishment of a full time DMMO project manager by the host agency during the last months of the pilot phase provided significant improvement in meeting this goal. With the continued availability of the project manager and further experience in the role, improvements should continue.

2. Issue: Applicant coordination. The written transmittal of DMMO actions (decisions, questions or requirements for additional action) to applicants has often been slow relative to the three week timeline laid out in Section 11(f) of the MOU. The time frame for preparation and transmittal of responses to applicants is often delayed by incomplete applicant submittals and/or the DMMO bi-monthly meeting schedule.

Recommended Action: Revise the appropriate sections of the MOU to direct that, when complete, applicant submittals will be placed on the next available regularly scheduled DMMO meeting agenda and that a response will be provided within two (2) weeks of the DMMO consideration of the item.

3. Issue: Meeting MOU time objectives. DMMO objectives were frequently not met because of delays occurring between completion of the DMMO suitability determinations and the release of the COE Public Notice and issuance of the final permits for the DMMO pilot projects.

Recommended Action: Host agency management and monitoring of the dredging data base will greatly aid in tracking the course of projects beyond the suitability determination phase. Furthermore, it appears that the recent hiring of a full-time DMMO coordinator by the COE, combined with greater experience by all the member

agencies, will help to improve the ability of the DMMO to meet the time goals contained in the MOU.

4. **Issue:** DMMO project tracking. The need to monitor performance and improve the DMMO procedures clearly indicates the need for the implementation of a functional DMMO project tracking system. The DMMO has discussed the content and structure of an electronic data tracking system for DMMO projects as well as a DMMO WEB site for the presentation of project data. Progress on the design and establishment of a WEB site is proceeding. The DMMO is investigating the capabilities of the COE "RAMS" data management system for DMMO purposes. No tracking system is yet functioning.

Recommended Action: EPA and BCDC have jointly initiated the creation of an interim, spreadsheet-based, DMMO tracking system pending the establishment of a fully automated system. The host agency should complete and maintain the interim system while continuing to proceed with RAMS to see what can be accomplished within that system. The development of the WEB page should be completed during the second six-month pilot phase.

5. **Issue:** Applicant/special interest/public access to the DMMO process. The perception exists that DMMO meetings and activities are conducted in private and are not open to public input. As noted in the introductory portions of this report, the DMMO process does not alter any opportunities or requirements for input to agency regulatory decision-making. Interested parties are welcome to attend and comment during the initial portion of scheduled DMMO meetings.

Recommended Action: The DMMO needs to better publicize the fact that in accordance with guidance contained in the MOU, the member agencies have agreed that the first 15 minutes of scheduled DMMO meetings are available for attendance and presentation of comments by applicants, special interests and/or the general public. Attendance at DMMO meetings needs to be scheduled with the host agency five days in advance so that all member agencies can be notified. When available, the DMMO WEB site is expected to be an important vehicle for the public presentation of DMMO schedules, agendas and activities.

6. **Issue:** Host agency conflict of interest. Although not formally part of the first six-month pilot program, as described by the MOU, the DMMO agencies have utilized the opportunity of the bi-monthly DMMO meetings to review and approve COE maintenance dredging projects. Problems arose because the Corps often didn't present information to the group in a fashion consistent with the guidelines and procedures outlined in the MOU and General Operating Principles. This raised agency concern that there could be a conflict of interest on the part of the host agency with regard to processing its own projects through the DMMO.

Recommended Action: The COE submit technical information and data on Corps dredging projects to DMMO for review in a manner consistent with the general procedures outlined in the MOU and the General Operating Principles. The COE will not make formal DMMO application for Federal navigation channels and the COE will not receive DMMO approval letters. The review by the agencies will be documented in the DMMO meeting minutes.