



August 31, 1995

Mr. Ronald Yee  
Remedial Project Manager  
Engineering Field Activity West  
Naval Facilities Engineering Command  
900 Commodore Drive, Bldg. 206  
San Bruno, CA 94066-2402

**Subject: Transmittal of September 21, 1995, Meeting Agenda and  
August 17, 1995, Restoration Advisory Board Meeting Minutes**

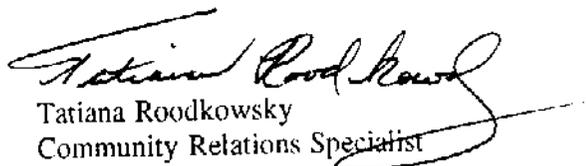
Dear Mr. Yee:

At the request of the Navy Co-Chair, Mr. Richard Pieper, enclosed is the agenda for the September 21, 1995 Restoration Advisory Board (RAB) meeting. Also enclosed for your review are the draft minutes for the August 17, 1995, RAB meeting. Please submit any comments in writing at the September 21, 1995, RAB meeting or send your comments to Mr. Pieper at the following address:

Mr. Richard Pieper  
Code 092, Building 1A-15  
Naval Weapons Station Concord  
10 Delta Street  
Concord, CA 94520-5100  
Fax: (510) 246-2003

You may wish to note that the main focus of the September 21, 1995, RAB meeting is the election of the community co-chair.

Sincerely,

  
Tatiana Roodkowsky  
Community Relations Specialist



**AGENDA**  
**NAVAL WEAPONS STATION CONCORD**  
**RESTORATION ADVISORY BOARD MEETING**

**Thursday, September 21, 1995**

**7:00 p.m. - 9:00 p.m.**

**Ambrose Community Center**  
**3105 Willow Pass Road**  
**Bay Point, California**

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7:00 - 7:10	WELCOME AND INTRODUCTIONS
7:10 - 7:20	PROCEDURES COMMITTEE REPORT
7:20 - 8:05	COMMUNITY CO-CHAIR CANDIDATE PRESENTATIONS (5 minutes each) <ul style="list-style-type: none"><li>- George Delacruz</li><li>- Scott Etzel</li><li>- John Fuery</li><li>- Ed Gardner</li><li>- Neal Grindheim</li><li>- Dave Kory</li><li>- Larry Myers</li><li>- Herb Schwartz</li></ul>
8:05 - 8:15	COMMUNITY CO-CHAIR ELECTION
8:15 - 8:25	BALLOT COUNT/BREAK
8:25 - 8:35	COMMUNITY CO-CHAIR INSTALLATION
8:35 - 8:45	DISCUSSION OF FUTURE AGENDA TOPICS/PRESENTATIONS
8:45 - 8:55	PUBLIC COMMENT
8:55 - 9:00	IDENTIFY NEXT MEETING, TIME, PLACE, AND DATE
9:00	ADJOURN



**NAVAL WEAPONS STATION CONCORD  
RESTORATION ADVISORY BOARD**

**MEETING MINUTES**

**Ambrose Community Center  
3105 Willow Pass Road  
Bay Point, California**

**THURSDAY, AUGUST 17, 1995**

**I. WELCOME AND INTRODUCTIONS**

The Naval Weapons Station (WPNSTA) Concord Restoration Advisory Board (RAB) met at 7:00 p.m. on August 17, 1995, in the Ambrose Community Center in Bay Point, California. The Navy RAB Co-Chair, Mr. Richard Pieper, began the meeting by introducing himself and then asking the RAB members and the audience to introduce themselves. The purpose of the meeting was two-fold: (1) to listen to a presentation on the Tidal Area investigation sites and (2) to discuss the RAB Procedures Committee report and recommendations.

These minutes summarize the items discussed during the RAB meeting; they are not a verbatim transcript. Attachment A is a list of the participants. Attachment B is the meeting agenda.

**II. PRESENTATION ON THE TIDAL AREA INVESTIGATIONS**

Mr. Pieper introduced Dr. Barbara Smith, United States Environmental Protection Agency (EPA). Dr. Smith explained that she would first give an overview of the importance of wetlands, followed by slides of the Tidal Area sites. Attachment C is Dr. Smith's presentation outline and notes. Dr. Smith encouraged the attendees to complete the evaluation forms, so that future presentations can be tailored to meet the expectations of the RAB members. Dr. Smith referred to the Tidal Area Sites Summary, which was distributed to the RAB members in the August mailing and copies were available at the August 17, 1995, meeting.

Dr. Smith first showed the RAB members a slide of Point Edith Marsh. She noted that all wetlands share three characteristics: hydrology, soils of a specific type, and vegetation. In general, to be considered a wetland, an area must have water on the soil or at the surface of the soil for some extended period of time during the growing season; the area must be inundated with water for some extended period of time during the growing season; and more than 50 percent of the dominant plant species in the area must be plants that only live in wetlands, that usually live in wetlands, or that can survive being inundated for some period of time.

Dr. Smith explained that wetlands have functions and values. Wetlands functions affect the environment and include the following:

- Providing protection from flooding by acting like a sponge and reducing the speed with which runoff goes into rivers and the ocean
- Providing food chain support for fish and wildlife
- Providing habitat for fish and wildlife
- Providing water quality improvement by filtering contaminants

Wetlands values affect people and include recreation (hunting, fishing, and bird watching), nitrogen recycling, habitat for anadromous fisheries.

Dr. Smith explained that the over 95 percent of the wetlands that were present in the Bay Area in the 1800s have been destroyed or modified by the following processes:

- Hydrologic modification, including water diversions, flooding, changes in local runoff patterns, and rises in sea level
- Physical alterations, including dredging and filling for development, diking and changes in land cover for farming, channeling for mosquito control, and habitat alteration
- Sedimentation from upstream erosion and mining operations
- Nutrient loading from sewage, dairy wastes, and fertilizers
- Toxic contamination from heavy metals and pesticides
- Invasion by introduced or exotic non-native species

Dr. Smith described several different types of wetlands, including intertidal mudflats and rocky shores; marine tidal marshes; saltwater, brackish, and freshwater estuarine tidal marshes; saltwater, brackish, and freshwater non-tidal or diked marshes and salt ponds; seasonal perennial wetlands; and riparian wetlands adjacent to rivers and streams. WPNSTA Concord contains estuarine tidal marshes at the Litigation Area sites; non-tidal or diked marshes at the Tidal Area sites; seasonal and perennial wetlands near Nichols Creek, and riparian wetlands near Nichols Creek.

Dr. Smith explained the three main underlying assumptions of the remedial investigation at the Tidal Area sites:

- (1) Baker Road and Froid Road will remain important for continued operations at WPNSTA Concord. Therefore, it is assumed that the existing system of dikes and channels will remain in place and operable, especially around Sites 1 and 2, to avoid flooding these roads.
- (2) The Tidal Area sites are situated in wetlands and are very unlikely to be developed for residential use for humans. Therefore, the receptors of concern are non-human receptors, including plants and animals. To evaluate risks to non-human receptors, chemical analyses must be able to detect concentrations of contaminants at lower levels than for determining risks to humans, because plants and animals, in general, are more sensitive to most contaminants than humans.
- (3) The plant and animal receptors of concern view the four Tidal Area sites as one large, interconnected wetland area. Division of this area into sites is artificial and is a function of the investigation process.

After discussing the underlying assumptions, Dr. Smith discussed Site 1, the Tidal Area Landfill; Site 2,

the R Area Disposal; Site 9, Froid and Taylor Roads; and Site 11, the Wood Hogger. The presentation for each site was structured by focusing on: (1) the history of the previous investigations; (2) the current environmental activities; and (3) the remedial alternatives under consideration. The presentation outline and notes (Attachment C) and the Tidal Area Sites Summary (which was mailed out with the July 20 meeting minutes and also distributed at the August 20, 1995 meeting) provide detailed information on each site. Dr. Smith noted that for the four sites, the levels of contaminants were not, for the most part, sufficiently high to pose an immediate threat to human health. However, the data from the previous investigations were not of a sufficient quality, in many instances, to evaluate the risks to non-human receptors, because the detection limits were too high. The current remedial investigations at the four sites are being conducted to evaluate possibly threats to non-human receptors.

### III. DISCUSSION ON THE TIDAL AREA INVESTIGATIONS

A question and answer session followed Dr. Smith's presentation. A RAB member asked what types of remedies are available for the wastes generated by the refineries adjacent to WPNSTA Concord. Dr. Smith responded that the refinery wastes are primarily petroleum wastes, so bioremediation or excavation and disposal are common methods for remediation. Ms. Connie Peak noted that some refineries use barrier walls or caps for containment, and artificial marshes and bioremediation for treatment.

Mr. Ed Gardner asked what types of heavy metals, other than selenium, are found in the groundwater. Dr. Smith responded that arsenic, zinc, copper, and lead have been found at the Tidal Area sites. Mr. Gardner then asked whether the combination of selenium and some of the other heavy metals can cause a higher rate of cancer in humans. Dr. Smith responded that she would ask an EPA human health risk assessor/toxicologist for a response to this question. She noted that the remedial investigation should provide more detailed information on potential groundwater contaminants.

Mr. Scott Etzel asked for the name of the document that would provide more information on the chemicals detected at the Tidal Area sites. Dr. Smith responded that the analytical results for previous investigations at the Tidal Area sites can be found in the "Site Investigation Report for the Tidal Area Sites, Naval Weapons Station, Concord, California," dated July 1992.

Regarding Figure 3 of the Tidal Area Sites Summary handout, Mr. John Fuery asked why the deepest borings around the Tidal Area Landfill (Site 1) are only 5 feet below ground surface when the landfill waste may be 15 feet deep. Dr. Smith stated that the borings placed around the edge of the landfill to 5 feet below ground surface will be used to assess if contaminants are leaving the landfill and not to determine the depth of the waste in the landfill. The 2-foot and 5-foot borings in the R Area Disposal (Site 2) will be used to verify the presence of a competent clay layer.

A community member asked how the combination of testing will lead to some sort of value judgement regarding the viability of the receptor community. Dr. Smith noted that an ecological risk assessment is currently being conducted at the Tidal Area sites. The ecological risk assessment includes testing using bioassays. Results of the bioassays should indicate possible contamination that may be affecting non-human receptors at the sites.

Mr. George Delacruz asked whether the Navy or EPA have received any requests to conduct archeological studies in the landfill, especially since it served as the Port Chicago disposal area. Dr. Smith responded that there have not been any requests. She noted that one reason that the Tidal Area

Landfill does not pose a threat to human receptors is that humans do not come in contact with the landfill wastes. If humans start digging in the landfill, it would create a situation where exposure to the landfill's wastes may pose a risk to humans. Mr. Delacruz asked whether it would be permissible for people to conduct archeological digs in the landfill. Dr. Smith stated that a response to this question would be added as an action item for later discussion.

Mr. Gardner asked whether there is a possibility for general public access to the sites after the cleanup has taken place. Mr. Pieper responded that he would not expect to see WPNSTA Concord opened to the public. Mr. Pieper noted that the naval weapons station historically has denied general public access.

Mr. Delacruz asked whether or not the wetlands could be stripped and the plant life replaced? Dr. Smith responded that the Army Corps of Engineers would probably tell you that it is easy. However, in reality, it is more difficult to rip out the plant life and replant them. Mr. Delacruz also asked whether EPA and the Navy work with the Bay Conservation and Development Commission (BCDC). Dr. Smith acknowledged that EPA and the Navy are very sensitive to complying with all the applicable laws and regulations and work with the BCDC.

Mr. Etzel asked whether the reference in the handout materials to ordnance materials and explosive compounds are the same. Dr. Smith replied that the two terms are similar, and that explosive compounds are detected by laboratory analysis. Mr. Etzel asked if there is reason to believe that any of the sites contain explosive compounds. Dr. Smith replied that it is unlikely that the sites are contaminated with explosive compounds; however, due to the locations of the sites, it is necessary to verify that explosive compounds are not present. Approximately 10 percent of the samples will be analyzed for explosive compounds during the remedial investigation.

Mr. Neil Grindheim expressed concern over chipping chemically-treated wood at the Wood Hogger site. His concern was eliminating airborne contaminants during current operations. Dr. Smith and Mr. Richard Pieper responded that only untreated wood is currently handled at the Wood Hogger site. Chemically-treated wood is handled as hazardous waste and is stored in a permitted hazardous waste storage area before transport off site.

Mr. Neil Grindheim asked about the permeability of the clay layer under the landfill. Dr. Smith replied that the clay layer has a permeability of  $10^{-6}$  to  $10^{-7}$  centimeters per second. Dr. Smith explained that this is a measurement of the water flow rate.

Mr. Steve Bachofer asked whether, if there is a clay layer at the Wood Hogger Site, would the presence of the clay layer make the metals more significant. Dr. Smith replied that it may, but there is insufficient information and data to make that determination.

Mr. Delacruz asked whether any consideration has been given to the installation of portable incinerators to dispose of wood at the Wood Hogger site. Mr. Pieper responded that incineration poses more problems than wood chipping. He noted that in the past fifteen years, the untreated chipped wood has been recycled.

Ms. Loulena Miles asked either Dr. Smith or Mr. Pieper where the wood at the Wood Hogger site originates. Mr. Pieper explained that the wood at the site comes off the ships docking at the WPNSTA Concord. The wood is used on the ships as packing material, bracing, and blocking material for storing ordnance on the ships. Mr. Pieper noted that the pentachlorophenol (PCP) treated wood is used overseas.

Ms. Catie Roy asked when the testing results would be available from the Tidal Area sites. Dr. Smith reported that the data should be available in October. Dr. Smith replied that the testing results would be available beginning in October. Mr. Eugene Kuroczko asked why receiving the test results takes so long. Dr. Smith stated that the laboratory results must be verified before they are considered final.

#### **IV. PROCEDURES COMMITTEE REPORT AND RECOMMENDATIONS**

##### **A. Procedures Committee Report**

Mr. Pieper introduced Mr. David Kory, Procedures Committee Chair, who delivered a report of the Procedures Committee. Mr. Kory reported that the Procedures Committee first met on Monday, July 24, 1995 and subsequently on Monday, August 14. Attachment D is a copy of the meeting minutes for the August 14, 1995, meeting of the Procedures Committee.

Mr. Kory stated that the Procedures Committee decided to conduct a RAB membership survey prepared by Ms. Roy. The purpose of the questionnaire is to better understand the various backgrounds of the RAB members and their areas of expertise. Ms. Roy distributed the questionnaire to those RAB members attending the meeting. Ms. Roy will compile the results of the questionnaire and will summarize the information for the September 21, 1995, RAB meeting. Attachment E is the questionnaire.

Mr. Kory reported that the Procedures Committee recommended the establishment of three additional committees:

- (1) Public Relations Committee
- (2) Document Review Committee
- (3) Steering Committee.

Mr. Kory asked that the agenda for the September 21, 1995, RAB meeting include time for a discussion of these committees and time for interested RAB members to join these committees.

Mr. Kory reported that the Procedures Committee reviewed various procedural issues. The Procedures Committee recommended that the RAB meetings would be conducted by the community co-chair. The Procedures Committee also recommended the following agenda format:

- 1 hour - Presentation and Discussion
- 10 min. - Procedures Committee Report
- 10 min. - Public Relations Committee Report
- 10 min. - Document Review Committee Report
- 15 min. - RAB Member Items, Agenda Requests
- 15 min. - Public Comment

Mr. Delacruz asked whether the agenda would include an approval of the meeting minutes. Mr. Pieper suggested that Mr. Delacruz refer the question to the Procedures Committee.

## **B. Community Co-Chair Election**

Mr. Kory reported that the Procedures Committee decided that the election of the community co-chair would be held at the September 21, 1995, RAB meeting. All co-chair candidates were asked to declare their candidacy by the end of the August 17, 1995, meeting. The co-chair candidates will be asked to make a presentation not to exceed five minutes at the September RAB meeting. The Procedures Committee urged the candidates to present their background, qualifications, specific interests, potential conflicts of interest, how they envision their role as co-chair, and how they envision the RAB.

After the presentations by the candidates, ballots will be distributed to the community members of the RAB. The ballots will be collected by Ms. Roy and by Mr. Marvin Mayfield. The person with the most votes, receiving at least 50 percent of the total ballots shall be elected. A runoff will be held in the event no individual receives the necessary 50 percent. The newly elected co-chair will begin his service immediately, for a one-year term.

Mr. Pieper asked the community members who were interested in running for the co-chair position to write their names on the flip chart in the front of the room. The following members declared their interest to serve as community co-chair: Mr. George Delacruz, Mr. Scott Etzel, Mr. John Fuery, Mr. Ed Gardner, Mr. Neal Grindheim, and Mr. David Kory. Two individuals who were not present asked that their names be placed on the list: Mr. Larry Myers and Mr. Herb Schwartz.

Mr. Etzel noted that he is interested in running for community co-chair, but that he may be unable to attend the next meeting due to a business conflict. He asked whether the RAB would permit a candidate submitting either a statement or a video presentation. After discussion, Mr. Kory noted that it was the intent of the Procedures Committee to entertain presentations from RAB members attending in person. It was decided by those RAB members present that presentations must be made by the candidates in person.

## **V. NEXT RAB MEETING AND TOPICS**

### **A. Next RAB Meeting**

Mr. Kory announced that the Procedures Committee recommended that the RAB meet on the second Wednesday of the month. A discussion ensued. It was decided that meetings would continue to be held on the third Thursday of the month, at the Ambrose Community Center. The next RAB meeting will be held on Thursday, September 21, 1995, at 7:00 p.m.

### **B. Next RAB Meeting Topic**

Mr. Pieper asked the RAB members to submit future meeting topics to him in writing on the back of the evaluation form. He noted that the September 21, 1995 RAB topic will be the election of the community co-chair. Mr. Pieper then asked for oral comments on potential topics.

Mr. John Rosengard stated that he would like to take a field trip to some of the sites. He noted that Saturdays, either morning or afternoon would be optimal. Mr. Delacruz agreed that a weekend day would be preferable.

Mr. Rosengard volunteered to deliver a presentation on the Inland Area sites. Mr. Pieper asked Mr. Rosengard to provide him with a written abstract or outline that he could discuss with the regulatory members of the RAB.

Mr. Delacruz stated that he would like to hear a presentation on the Litigation Area sites including a history of the investigations. He noted that he would like to have the presentation conducted in conjunction with a field trip to the Litigation Area sites. Mr. Delacruz announced that the reason for the timing is that the East Bay Regional Park District is acquiring the land west of MacAvoy Harbor near the Litigation Area sites.

Ms. Miles requested information on the current work schedules for the sites.

Mr. Ed Gardner would like to see Seal Creek addressed in any discussions on the Inland Area sites.

Mr. John Pearson stated that he would like to hear a presentation topic focusing on any sites where there may be a higher level of concern for human health. He noted that the sites addressed at this RAB meeting did not pose an immediate high level of risk to human health. He asked Dr. Smith if she knew of "higher priority" areas. Dr. Smith stated that the studies are currently underway, but there is no data available to make determinations. Mr. Pieper noted that although there is no immediate significant human health threat, there is significant concern regarding the ecological threat at the various sites.

## VI. ACTION ITEMS

The action items identified during the August 17, 1995, RAB meeting include the following:

- Announcement of RAB community members intention to run for community co-chair
- Request that the Procedures Committee decide whether to add the approval of meeting minutes to the agenda format
- Request that RAB community members decide which committees to join at the September 21, 1995, RAB meeting
- Request that Dr. Smith ask the EPA toxicologist about the effects of selenium and other heavy metals
- Request that Dr. Smith look into the feasibility and possible effects of conducting archeological studies in the landfill area
- Request that Mr. Rosengard provide Mr. Pieper with a written outline or abstract of the proposed presentation for the Inland Area sites

## **VI. ADJOURNMENT**

Mr. Pieper adjourned the meeting at 9:25 p.m. A copy of these meeting minutes is available to the public in the information repository located at:

**Contra Costa County Library  
Main Branch  
1750 Oak Park Blvd.  
Pleasant Hill, CA 94523  
(510) 646-6434**

**ATTACHMENT A**

**LIST OF PARTICIPANTS  
THURSDAY, AUGUST 17, 1995**



## **ATTACHMENT A**

### **LIST OF PARTICIPANTS**

Thursday, August 17, 1995

#### **1. RESTORATION ADVISORY BOARD (RAB) COMMUNITY MEMBERS.**

Ms. Elizabeth R. Anello; Mr. Steven Bachofer; Mr. Richard Cox; Mr. George Delacruz; Mr. Scott Etzel; Mr. Mike Flowers; Mr. John Fuery; Mr. Edward Gardner; Mr. Neal Grindheim; Mr. Anthony Jorgensen; Mr. Jim Koeppel; Mr. David Kory; Mr. Eugene Kuroczko; Mr. Marvin Mayfield; Ms. Colleen Monahan; Ms. Loulena Miles; Ms. Connie Peak; Mr. John Pearson; Ms. Barbara Pisching; Ms. Catie Roy; Mr. John Rosengard; Mr. Thomas Shirley; and Ms. Jeanne Waggoner.

#### **2. NAVY RAB MEMBERS.**

Mr. Richard Pieper, Naval Weapons Station (WPNSTA) Concord and Navy RAB Co-Chair; and Mr. Ronald Yee, Engineering Field Activity (EFA WEST).

#### **3. REGULATORY AGENCY RAB MEMBERS:**

Mr. James Pinasco, California Environmental Protection Agency (CAL EPA) Department of Toxic Substances Control; and Dr. Barbara Smith, United States Environmental Protection Agency (EPA).

#### **4. OTHER ATTENDEES:**

Ms. Deborah Albert, PRC Environmental Management, Inc. (PRC); Ms. Jane Diamond, EPA; Ms. Cindi Flemming, Commander Naval Base San Francisco Bay Area; Mr. Thomas E. Lindemuth, Contra Costa County Hazardous Materials Commission; Mr. Russell Minor, community member; Mr. Jim Polek, Montgomery Watson; Ms. Tatiana Roodkowsky, PRC; Ms. Lynn Valdivia, PRC; and Ms. Dorothy Wilson, EPA.



**ATTACHMENT B**

**NAVAL WEAPONS STATION CONCORD  
RESTORATION ADVISORY BOARD MEETING AGENDA  
THURSDAY, AUGUST 17, 1995**



**AGENDA**  
**NAVAL WEAPONS STATION CONCORD**  
**RESTORATION ADVISORY BOARD MEETING**

**Thursday, August 17, 1995**

**7:00 p.m. - 9:00 p.m.**

**Ambrose Community Center**  
**3105 Willow Pass Road**  
**Bay Point, California**

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7:00 - 7:10	WELCOME AND INTRODUCTIONS
7:10 - 7:50	PRESENTATION ON THE TIDAL AREA INVESTIGATIONS
7:50 - 8:10	DISCUSSION ON THE TIDAL AREA INVESTIGATIONS
8:10 - 8:20	BREAK
8:20 - 8:35	PROCEDURES COMMITTEE REPORT AND RECOMMENDATIONS
8:35 - 8:50	DISCUSSION ON THE PROCEDURES COMMITTEE REPORT AND RECOMMENDATIONS
8:50 - 9:00	IDENTIFY NEXT TOPIC, MEETING TIME, PLACE, AND DATE
9:00	ADJOURN



**ATTACHMENT C**

**THE TIDAL AREA SITES AT NAVAL WEAPONS STATION CONCORD  
PRESENTATION OUTLINE**



**RESTORATION ADVISORY BOARD PRESENTATION  
SAN FRANCISCO BAY ESTUARY WETLANDS AND  
THE TIDAL AREA SITES AT NAVAL WEAPONS STATION CONCORD  
BARBARA M. SMITH, PH.D.  
AUGUST 17, 1995**

**PRESENTATION OUTLINE**

**I. INTRODUCTION**

**II. WETLANDS IN THE SAN FRANCISCO BAY ESTUARY**

- A. Wetland Parameters
- B. Wetland Functions and Values
- C. Loss of Wetland Functions and Values in the San Francisco Bay Estuary System
- D. Wetland Types at Naval Weapons Station Concord

**III. THE TIDAL AREA SITES**

- A. Visual Orientation of the Tidal Area Sites
- B. Underlying Assumptions for Remedial Investigation of the Tidal Area Sites and How These Assumptions Affect Data Gathering and Data Interpretation
  - 1. Maintenance of dikes and water drainage patterns
  - 2. Sensitive detection limits to evaluate risks of contaminants to non-human receptors
  - 3. Interconnection of the four Tidal Area sites
- C. Site 1: Tidal Area Landfill
  - 1. Previous investigations
  - 2. Remedial investigation approach
  - 3. Potential remedial alternatives
- D. Site 2: R Area Disposal
  - 1. Previous investigations
  - 2. Remedial investigation approach
  - 3. Potential remedial alternatives
- E. Site 9: Froid and Taylor Roads
  - 1. Previous investigations
  - 2. Remedial investigation approach
  - 3. Potential remedial alternatives
- F. Site 11: Wood Hogger
  - 1. Previous investigations
  - 2. Remedial investigation approach
  - 3. Potential remedial alternatives

**IV. DISCUSSION AND QUESTIONS**

## PRESENTATION NOTES

### I. INTRODUCTION

### II. WETLANDS IN THE SAN FRANCISCO BAY ESTUARY

#### A. Wetland Parameters

**Slide: Point Edith Marsh Habit  
Three Wetland Parameters**

Hydrology -- "...seasonally inundated and/or saturated to the surface for a consecutive number of days for more than 12.5 percent of the growing season, provided the soil and vegetation parameters are met." These numbers may change when Congress reauthorizes the Clean Water Act, but the definition says that water can be found on the soil or at the surface of the soil for some extended period of time during the growing season.

Soils -- "...at least 15 consecutive days of saturation or 7 days of inundation during the growing season in most years." The numbers may change, depending on what Congress decides, but the definition basically says that the soil in the wetland area is underwater for some extended period of time during the growing season.

Vegetation -- "...more than 50% of dominant species from all strata are OBL, FACW, or FAC on the appropriate U.S. Fish & Wildlife Service regional list of plant species that occur in wetlands." That is, most of the plant species in the wetland area are OBLigate (plants that only live in wetlands), FACultative Wetland (plants that usually live in wetlands), or FACultative (plants that can survive being inundated for some periods of time).

#### Regulatory Definitions:

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers -- definition basically says: "If it looks like a duck..."

U.S. Fish & Wildlife Service definition is more "user friendly."

#### B. Wetland Functions and Values

**Slide: Point Edith Marsh Habit  
Wetland Functions and Values**

#### Functions:

Hydrology -- wetlands provide protection from flooding by acting like a sponge and reducing the speed with which runoff goes into rivers and the ocean.

Food chain support -- wetland plants provide food for microscopic (e.g., shrimp) and macroscopic animals (e.g., Salt Marsh Harvest Mouse).

Habitat for fish and wildlife -- including anadromous fishes (e.g., salmon).

Water quality improvement -- the ability of wetlands to "filter" water has been put to direct use in Arcata, where the town built a marsh to treat its domestic waste water.

Values:

Recreation -- hunting, fishing, bird watching, walking or jogging.

Global effects -- nitrogen recycling, airborne pollutants, anadromous fisheries, flyway birds.

References:

Mitsch, W. and Gosselink, J. 1986. Wetlands. Van Nostrand Reinhold, New York, New York. 539 pp.

Adam, P. 1990. Salt Marsh Ecology. Cambridge University Press, New York, New York. 461 pp.

### **C. Loss of Wetland Functions and Values in the San Francisco Bay Estuary System**

**Slides: Disturbed Habitat at Point Edith Marsh  
Loss of Historic Wetlands**

Hydrologic modification -- water diversions, flooding, changes in local run-off patterns, rise in sea level

Physical alteration -- Dredge and fill (for development), diking (farming), channelling (mosquito control), change in land cover type (farming), habitat alteration

Sedimentation -- "upstream erosion", mining operations (adverse effects from too much or too little sediment)

Nutrient loading -- sewage, dairy wastes, fertilizers

Toxic contaminants -- heavy metals, selenium, pesticides

Invasion by "introduced" or "exotic" non-native species -- ballast water from ships, ship hulls, deliberate introductions (*Corbicula* clams, Striped Bass)

### **D. Wetland Types at Naval Weapons Station Concord**

**Slides: Marsh Types  
Wetland Types**

Intertidal mudflats and rocky shores -- examples: Bodega Bay, Fort Point, none at WPNSTA Concord

Marine tidal marshes -- examples: around Treasure Island, Angel Island, Alameda Naval Air Station, none at WPNSTA Concord

Estuarine tidal marshes -- (salt/brackish/fresh) -- examples: Mare Island, portions of Point Edith Marsh, WPNSTA Concord Litigation Area sites, Hastings Slough marsh area

Non-tidal (diked) marshes and salt ponds -- (salt/brackish/fresh) -- examples: Carquinez salt ponds, south San Francisco Bay salt ponds, the farmlands in the Sacramento River delta, WPNSTA Concord Tidal Area sites

Seasonal and perennial wetlands -- examples: vernal pools at Travis Air Force Base, WPNSTA Concord Nichols Creek

Riparian woodlands -- examples: WPNSTA Concord: the willow trees along Diablo/Seal Creek, Nichols Creek

### III. THE TIDAL AREA SITES

#### Slides: Aerial View of the Tidal Area Sites and Photographs of Each Site

- A. Underlying Assumptions of the Remedial Investigation of the Tidal Area Sites and How These Assumptions Affect Data Gathering and Data Interpretation.
1. Baker Road and Froid Road will remain important for continued operations at WPNSTA Concord. Therefore, the existing system of dikes and channels will remain in place and operable, especially around Sites 1 and 2, to avoid flooding these roads.
  2. The Tidal Area sites are situated in wetlands and are very unlikely to be developed for residential use for humans. Therefore, the "receptors of concern" are non-human receptors (plants and animals). To evaluate risks to non-human receptors, chemical analyses must be able to detect concentrations of contaminants at lower levels (so-called "low detection limits") than for determining risks to humans, because plants and animals, in general, are more sensitive to most contaminants than humans.
  3. The plant and animal "receptors of concern" view the four Tidal Area sites as one large, interconnected, wetland area. Division of this area into "sites" is artificial and is a function of the investigation process and the types of remedial alternatives that may be used to clean up each site.
- B. Site 1: Tidal Area Landfill
1. Previous investigations
    - a. This area was designated a site because it was a landfill that was never permitted or closed in compliance with State of California or federal regulations.
    - b. Results of the site investigation at Site 1 showed that, like other landfills, there was a heterogeneous distribution of heavy metals, some solvents, some plasticizers and petroleum products like diesel and motor oil, one detection of polychlorinated biphenyls (PCB), which are found in transformer oils, and a pesticide (dieldrin). Groundwater contained elevated levels of heavy metals, and detectable concentrations of petroleum products.
    - c. The levels of contaminants were not, for the most part, sufficiently high to pose an immediate health risk to people. However, data from the site investigation was not of

sufficient quality, in many instances, to evaluate the risks of contaminants to non-human receptors because the detection limits were too high.

### **Slide: Conceptual Model of Seasonal Water Fluctuations**

#### **2. Remedial investigation approach for Site 1**

- a. A presumptive remedy approach for Site 1, the landfill, is being used. The presumptive remedy for landfills is capping and/or containment. The investigative approach also includes the possible option of not capping or containing the site. Both options would include some form of long term monitoring.
- b. The presumptive remedy approach will help avoid spending time and money digging in the landfill. The approach involves investigating the pathways that contamination may be leaving the landfill and delineating the lateral and vertical limits of the waste by sampling the soil on the edge of the landfill (samples shown on Figure 3 of handouts). The edge of the landfill will be sampled where it appears that there might be a pathway for groundwater or leachate to migrate from the landfill and to transport contaminated water or particles onto the surrounding marsh surface (Site 2).
- c. The Navy will use analyze surface sediment samples using low detection limit analytical methods to evaluate the risks of contaminants to non-human receptors.
- d. The U.S. Environmental Protection Agency will assist the Navy by performing toxicity bioassays on the groundwater (pore water or landfill leachate) at the interface of the landfill and the marsh surface (Site 2) to get an early answer to the question about the potential risks of contaminants from the landfill affecting non-human receptors. Bioassays are laboratory tests using organisms that may be found at the site to determine if the sediments and pore water are toxic. Using toxicity bioassays, the U.S. Environmental Protection Agency will test the Navy's assertion that less expensive biological tests (Microtox) can be used to predict toxicity to receptors of concern with the same accuracy and sensitivity as traditional bioassays.
- e. The bioassays to be performed by the U.S. Environmental Protection Agency will be combined with the chemical testing that the Navy is performing to help determine whether capping and/or containment of the landfill is necessary to protect non-human receptors.

#### **3. Potential remedial alternatives for Site 1**

- a. Estimated costs to excavate and haul away the wastes: 4,840 square yards/acre X 20 acres X 5 yards deep X \$100/cubic yd = \$48.4 million.
- b. Estimated costs to cap the landfill: \$3 million.
- c. The Navy is spending approximately \$224,000 (including \$71,000 for laboratory analytical costs) to determine if capping and containment are necessary.

C. Site 2: R Area Disposal

1. Previous investigations

- a. This area was designated a site because waste from the nearby munitions repackaging area (R Area) was observed on the surface of the marsh.
- b. Results of the site investigation showed that there was a heterogeneous distribution of heavy metals, some solvents, some plasticizers and petroleum products like diesel and motor oil, and a pesticide (DDT). Groundwater contained elevated levels of heavy metals and detectable concentrations of organic compounds.
- c. The levels of contaminants were not, for the most part, sufficiently high to pose an immediate health risk to people. However, data from the site investigation was not of sufficient quality, in many instances, to evaluate the risks of contaminants to non-human receptors because the detection limits were too high.

**Slide: Plate showing investigation strategy for Sites 1 and 2**

2. Remedial investigation approach for Site 2

- a. The investigation approach for Site 2 is to evaluate whether contaminated soil particles from the landfill have washed out onto the marsh surface, or if other wastes have been disposed of in the marsh, by sampling the surface soils of Site 2 (grid samples shown on Figure 3 of handout). Soil borings will be sampled to 5 feet below ground surface to evaluate whether disposal extended farther out onto Site 2 and if there is a consistent ("competent") clay layer (to act like a natural clay liner for the landfill). The Navy will analyze surface sediment samples using low detection limit analytical methods to evaluate the risks of contaminants affecting non-human receptors.
- b. The investigation approach will evaluate whether the soils where waste was observed (construction waste, munitions casings) have contaminants that might pose a risk to non-human receptors by taking sediment samples along Baker Road and at the mouths of the culverts that connect Site 2 with Otter Sluice. Sediment samples will be collected in Otter Sluice to evaluate whether contaminants are moving toward Suisun Bay. The Navy will analyze surface sediment samples using low detection limit analytical methods to evaluate the risks of contaminants affecting non-human receptors.
- c. At some of the surface sediment grid nodes, biological tests will be used to determine if less expensive tests, such as Microtox, can predict high concentrations of mixtures of contaminants and be used to substitute for more expensive chemical and/or biological tests.

3. Potential remedial alternatives for Site 2

- a. Remove visible waste and debris along Baker Road, on the assumption that the wastes can be identified in discrete areas.

- b. If contaminants from the landfill (Site 1) have washed across the marsh surface at Site 2 and are found at concentrations that could pose a threat to the receptors of concern, the Navy will determine if removal of limited amounts of soil from the surface of the marsh could be performed without significantly disrupting the habitat and the receptors.
- c. The Navy is spending approximately \$523,000 (including \$166,000 for laboratory analytical costs) to determine if contaminants from the landfill and the R Area Disposal pose a risk to non-human receptors.

D. Site 9: Froid and Taylor Roads

1. Previous investigations

- a. This site was originally investigated because a piece of expended ordnance (a white phosphorus rocket round) was found on the surface.
- b. Results of the site investigation showed that scrap metal and debris were disposed of at this site. Heavy metals, solvents, and the wood preservative pentachlorophenol (PCP) were detected in soil. Groundwater contained elevated concentrations of some metals and one organic compound. On a later reconnaissance trip to the site, the Navy's contractor discovered a spill of motor oil in the sediment at the edge of the marsh.
- c. The levels of contaminants were not, for the most part, sufficiently high to pose an immediate health risk to people. However, data from the site investigation was not of sufficient quality, in many instances, to evaluate the risks of contaminants to non-human receptors because the detection limits were too high.

**Slide: Plate showing investigation strategy for Sites 9 and 11**

2. Remedial investigation approach for Site 9

- a. Take samples where waste was observed in the past to determine if there are discrete areas of waste that can be identified for removal.
- b. The Navy will analyze sediment samples using low detection limit analytical methods to evaluate the risks of contaminants affecting non-human receptors.
- c. The Navy is spending approximately \$224,000 (including \$71,000 for laboratory analytical costs) to perform the investigation at Site 9. The results of this phase of investigation should provide sufficient information to decide how or whether Site 9 needs to be cleaned up.

3. Potential remedial alternatives for Site 9

- a. Remove visible waste or debris from the site.

E. Site 11: Wood Hogger

1. Previous investigations

- a. This site is comprised of two parts, the Wood Hogger and the area where PCP-treated wood was buried (the outer edges or "donut" on Figure 4 of the handout), and an ongoing wood chipping and scrap metal staging area called solid waste management unit (SWMU) 37 (the middle or "donut hole" on Figure 4).
- b. The results of the site investigation, which looked only at the "donut," identified high concentrations of some heavy metals, low concentrations of solvents, high concentrations of plasticizers, petroleum products, the wood preservative PCP, and high concentrations of the pesticides DDT and chlordane in soils. Groundwater contained elevated concentrations of heavy metals and some organic compounds.
- c. The levels of contaminants were not, for the most part, sufficiently high to pose an immediate health risk to people. However, data from the site investigation was not of sufficient quality, in many instances, to evaluate the risks of contaminants to non-human receptors because the detection limits were too high.

**Slide: Plate showing investigation strategy for Sites 9 and 11**

2. Remedial investigation approach for Site 11

- a. The remedial investigation will be divided into two parts. Phase 1A includes sampling of surface and subsurface soils, surface water, and sediments in Otter Sluice. Phase 1B will include an investigation of groundwater as a contaminant pathway, if necessary. The results of the SWMU 37 investigation are coming in soon and will be combined with existing site investigation data to determine if any additional sampling of Site 11 will be necessary.
- b. The Navy will analyze surface sediment samples using low detection limit analytical methods to evaluate the risks of contaminants affecting non-human receptors.
- c. The Navy is spending approximately \$523,000 (including \$166,000 for laboratory analytical costs) to investigate Site 11 and \$40,000 (including \$12,000 for laboratory analytical costs) to investigate SWMU 37.

3. Potential remedial alternatives for Site 11

- a. The approach for cleanup at this site may include relocating the existing SWMU from the wetlands to a more appropriate (inland) site and removal of the scrap materials from the wetlands. Additional treatment of soils and groundwater will be contingent on the results of the current investigation and the concentrations of contaminants in the soils and groundwater.
- b. Types of remediation for PCP-contaminated soils and sediments have included the following: capping or containment (may be an option in a wetlands, but will depend on cost, engineering feasibility, and habitat destruction and reconstruction potential);

excavate and haul away contaminated soils and sediments (may be an option, but will depend on cost and habitat destruction and reconstruction potential); bioremediation using wood rot fungus (may be an option depending on the salinity of the soil and groundwater); chemical remediation (may be an option depending on the interferences from salinity of the soil and groundwater).

- c. Types of remediation for metal-contaminated soils and sediments have included the following: capping or containment (may be an option in a wetlands, but will depend on cost, engineering feasibility, and habitat destruction and reconstruction potential); excavate and haul away contaminated soils and sediment (may be an option, but depends on cost and habitat destruction and reconstruction potential); excavate, stabilize (make into concrete), and leave in place (may be an option, but depends on cost and habitat destruction and reconstruction potential).

## V. DISCUSSION AND QUESTIONS



**ATTACHMENT D**

**MEETING OF THE PROCEDURES COMMITTEE  
RESTORATION ADVISORY BOARD  
NAVAL WEAPONS STATION CONCORD  
MONDAY, AUGUST 14, 1995**



DRAFT

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14 AUGUST 1995 MEETING OF THE PROCEDURES COMMITTEE OF THE  
RESTORATION ADVISORY BOARD FOR NAVAL WEAPONS STATION CONCORD

MEETING LOCATION: Clyde Community Center & Sauna

COMMITTEE ATTENDEES:

David Kory, Chair	Ed Gardner
John Fuery	Catie Roy
Herb Schwartz	Tony Jorgenson
Larry Myers	Clint Mayfield
Rich Cox	

COMMITTEE ABSENTEES:

Keath Woods
Wilfred Zukeran

1. As committee members arrived for the meeting, Herb Schwartz distributed information on the California Economic Recovery and Environmental Restoration Project (Career/Pro), which provides technical assistance and support for community based organizations, RAB training workshops, and related activities. He also provided definitions and information on CERCLA, RCRA and SARA.

2. David Kory opened the meeting at 7:00 pm, and asked Catie Roy to present the draft questionnaire for review. The committee reviewed the questionnaire line by line, and agreed upon the following questions:

- a. Name, Phone numbers
- b. Why did you become a member of the RAB ?
- c. Pertinent Work/Volunteer/Educational Background ?
- d. Community Organization Memberships/Activities?
- e. Special Skills/Contacts (e.g. engineering, biochemistry, law, journalism, etc.) ?
- f. Any other skills/expertise you feel may be of use to the RAB (e.g. computers) ?
- g. Do you have any interest in:
  - Document Review Committee
  - Public Relations Committee
  - Procedures Committee
  - Funding/Grant Assistance
  - Other/Misc.

Catie Roy volunteered to prepare the final questionnaire, which will be distributed at the general RAB meeting on 17 August 1995. David Kory will give a brief presentation on the purpose of the questionnaire, and collect at the end of the meeting. Questionnaires may also be mailed to Rich Pieper. Catie Roy will assemble and summarize the information for the September meeting.

3. David Kory reviewed notes from the last meeting regarding basic RAB operations, including the consensus to keep it simple and open, and the following basic guidelines were agreed upon:

- a. Meetings will be conducted by the Community Co-Chair.
- b. Agendas will be set by the Community and Navy Co-Chairs, based on current activities, input from the Steering Committee, and input from RAB members.
- c. Meetings will be planned for +/- 2 hours, allocated approximately:
  - 1 hour: Presentation and discussion
  - 10 min: Procedures Committee Report
  - 10 min: Public Relations Committee Report
  - 10 min: Document Review Committee Report
  - 15 min: RAB member items, agenda requests
  - 15 min: Public comment

Further rules and/or guidelines will be developed by the Procedures Committee as needed.

4. Descriptions of the 4 standing committees were agreed upon as follows:
  - a. Procedures Committee The PC will review procedures for conducting RAB business and suggest improvements and efficiencies for ensuring that RAB meetings are productive and that lines of communication are open and effective. Changes will be accepted or rejected by voice vote at meetings of the RAB. The PC will report to the RAB at each meeting. The PC report will become part of the minutes of that meeting.
  - b. Public Relations Committee The PRC will monitor public relations actions of the RAB. The PRC will suggest text for advertisements for RAB meetings, monitor public perceptions and concerns as they pertain to cleanup actions, and suggest improvement in presentation of materials. The PRC will report to the RAB at each meeting. The PRC report will become part of the minutes of that meeting.
  - c. Document Review Committee The DRC will serve as point of contact for document review. The DRC will receive and maintain all documents of interest to the RAB, issuing documents to RAB members as necessary. The DRC will present synopsis reports on documents at each RAB meeting. The DRC report will become part of the minutes of that meeting.
  - d. Steering Committee The SC will be composed of the chairs of the PC, the PRC, the DRC, and the Community Co-Chair. The SC will assist in developing agendas, suggesting topics for presentation, and maintaining the focus of the RAB.
5. Any RAB members volunteering to serve as Community Co-Chair will be asked to declare their intentions by the end of the 17 August meeting, and make a maximum 5 minute presentation at the September meeting. It was agreed to suggest that candidates present their appropriate background, qualifications, specific interests, potential conflicts of interest, and how they envision their role as Co-Chair as well as the role of the RAB.
6. After the presentations, ballots will be passed out, and attending RAB members will vote for one person. The ballots will be collected and counted by Catie Roy and Clint Mayfield, who will not be candidates. The person with the most votes receiving at least 50% of the total ballots shall be elected. If no person receives at least 50%, a runoff vote will be held between the top two candidates, (or more if an equal tie), until someone receives at least 50% of the ballots. The newly elected Co-Chair would begin immediately, and serve a one-year term. Candidates would next announce in August 1996, for elections in September 1996.
7. John Fuery noted that he did not receive a copy of the minutes of the 24 July Procedures Committee, and would like a set. He also asked for a copy of D:\RABLTR1.DOC (list of doc's).
8. Ed Gardner noted he also did not receive the 24 July PC minutes, and asked that his address be corrected to: 128 Norman Ave, Clyde, CA 94520-1105
9. Discussion was held regarding meeting dates, and although it was felt there would always be a conflict for someone, it was agreed that the 1st Wednesday of the month would be good the PC, and that a suggestion be made to change RAB meetings to the 2nd Wednesday of the month, effective in September. The next PC meeting was scheduled for September 6, 1995, tentatively at the Clyde Community Center.
10. The meeting adjourned at 8:15 pm.

**ATTACHMENT E**

**RESTORATION ADVISORY BOARD  
NAVAL WEAPONS STATION CONCORD  
MEMBER SURVEY**



**RESTORATION ADVISORY BOARD - NAVAL WEAPONS STATION CONCORD  
MEMBER SURVEY\***

Name: \_\_\_\_\_ Phone(s): \_\_\_\_\_

Why did you become a member of the RAB? \_\_\_\_\_

Pertinent Work/Volunteer Experience and Educational Background: \_\_\_\_\_

Community Organization Membership/Activities: \_\_\_\_\_

Special Skills/Contacts (e.g., engineering, biochemistry, law, journalism, libraries, etc.):

Other skills/expertise you feel may be of use to the NWSC RAB (e.g., computers): \_\_\_\_\_

Do you have any interest in the following? (Please check all that apply.)

_____ Document Review Committee	_____ Finance/Grant Committee
_____ Public Relations Committee	_____ Procedures Committee
_____ Other _____	_____ Other _____

Other Comments: \_\_\_\_\_

**\*Please complete and return to the Procedures Committee at the August 17, 1995 meeting, or mail to: Mr. Richard Pieper; Code 092, Building IA-15; Naval Weapons Station Concord; 10 Delta Street; Concord, CA 94520-5100**

**THANKS FOR YOUR INPUT AND COOPERATION !!**

