

Marine Corps Air Station El Toro
Installation Restoration Program

Public Information Materials
provided to attendees at the
2/28/95
Restoration Advisory Meeting
held at Irvine City Hall
Irvine, CA

Materials Should Include:

Public Notice
Notification Package
Cover Letter
Draft Agenda
Reminder (opt.)
Meeting Package
Agenda
Materials
- Presentations
- Handouts
Post Meeting Package
Minutes
Sign-in Sheets
Additional Supplemental

Other

Materials Include:

Meeting Reminder
Agenda
Minutes
IRP - RAB Mission Statement & Operating Procedures
Larry Sievers (Chair CERFA/EBS Subcommittee)
Presentation
SWDIV BRAC Budget Timeline
Bonnie Arthur (EPA) Developing Cleanup Levels
Presentation on Risk Assessment
Developing Preliminary Remediation Goals
Document Review Process & Reporting Procedures

Meeting Reminder

The MCAS El Toro Restoration Advisory Board
will meet on
Tuesday, February 28, 1995
7:00 - 9:00 pm
City Hall
Training & Conference Center
One Civic Center Plaza
Irvine

Discussion at this meeting will include

- *BRAC Environmental Funding*
- *Cleanup Standards and Risk Assessment
Overview*
- *Environmental Baseline Survey
Subcommittee Report*

All members of the interested public are welcome!

For more information about this meeting and the Installation Restoration Program
at MCAS El Toro, please contact:

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AC/S Environmental
MCAS El Toro
P.O. Box 95001
Santa Ana, CA 92709-5001
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**MCAS El Toro
Restoration Advisory Board
Meeting**

28 February 1995
7:00-9:00 PM
Conference & Training Center
City of Irvine
One Civic Center Plaza
Irvine

DRAFT AGENDA

- **Welcome/Introductions/
Agenda Review** Joseph Joyce

- **Old Business** Marcia Rudolph

Approval of 1/31 Minutes

Rules of Operations

- **New Business**

BRAC Environmental Funding Dana Sakamoto
Navy, Southwest Division

Cleanup Standards and Risk
Assessment Overview Joseph Joyce
Regulatory Agencies

Environmental Baseline Survey
Subcommittee Report Larry Sievers

- **Action Items/Closing** Joseph Joyce

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MARINE CORPS AIR STATION EL TORO
RESTORATION ADVISORY BOARD MEETING

28 FEBRUARY 1995

MEETING MINUTES

A Restoration Advisory Board (RAB) meeting for Marine Corps Air Station (MCAS) El Toro was held on Tuesday, February 28, 1995 at the City of Irvine Conference and Training Center from 7:10 to 9:15 p.m. These minutes summarize the discussions resulting from this meeting.

WELCOME, INTRODUCTIONS, AGENDA REVIEW

Ms. Marcia Rudolph, RAB Community Cochair, opened the meeting, greeted members, and asked Mr. Joseph Joyce, Navy/Marine Corps RAB Cochair, to lead all present in the Pledge of Allegiance. Ms. Rudolph asked members to introduce themselves and stated that, in her opinion, it would benefit the board to observe Robert's Rules of Order and basic rules of civility at this and upcoming meetings.

Mr. Joyce reviewed the meeting agenda. No changes were requested. He announced that community interviews for the revised MCAS El Toro Community Relations Plan would begin in the near future and circulated a sign-up sheet for members interested in participating in the interview process. These interviews will be used to develop a plan upon which the Navy/Marine Corps will base their public involvement efforts.

OLD BUSINESS

Approval of 1/31 Minutes

Mr. Joyce asked for revisions to the January 31 RAB meeting minutes. The minutes were accepted with no change.

Charter Revisions

The MCAS El Toro RAB *Mission Statement and Operating Procedures* was officially accepted and signed by the RAB Cochairs and regulatory agency representatives from the U. S. Environmental Protection Agency and the California State Department of Toxic Substances Control.

Q: What is the likelihood of hydrocarbon solvents found in the groundwater rising to the surface through degradation?

A: In regards to the groundwater, the rate at which hydrocarbon degradation is occurring is not known. Although travel of the material up to the surface is possible, the chances that it would reach detectable levels are probably nonexistent.

Q: Is trichloroethylene considered a carcinogen?

A: Studies in humans fail to show that it is a human carcinogen.

Q: How might the contaminated groundwater affect local agriculture?

A: The chemicals of concern found in the groundwater are volatile which means they will dissipate upon contact with air; therefore these contaminants do not present any kind of threat to the local orange groves and other crops through the groundwater.

ACTION ITEMS AND CLOSING

Mr. Joyce asked Peter Hersh, a planner with the City of Irvine and a member of the MCAS El Toro Reuse Authority Committee, to give a brief update on reuse plans for the base. Mr. Hersh will continue to provide briefings to the board whenever new information becomes available.

Mr. Joyce asked members to suggest future agenda topics. These included:

- a briefing on the Tank 398 Free Product Removal
- a showing of the groundwater treatment technologies video (provided by Dr. Stephen Koenigsberg)
- a base tour

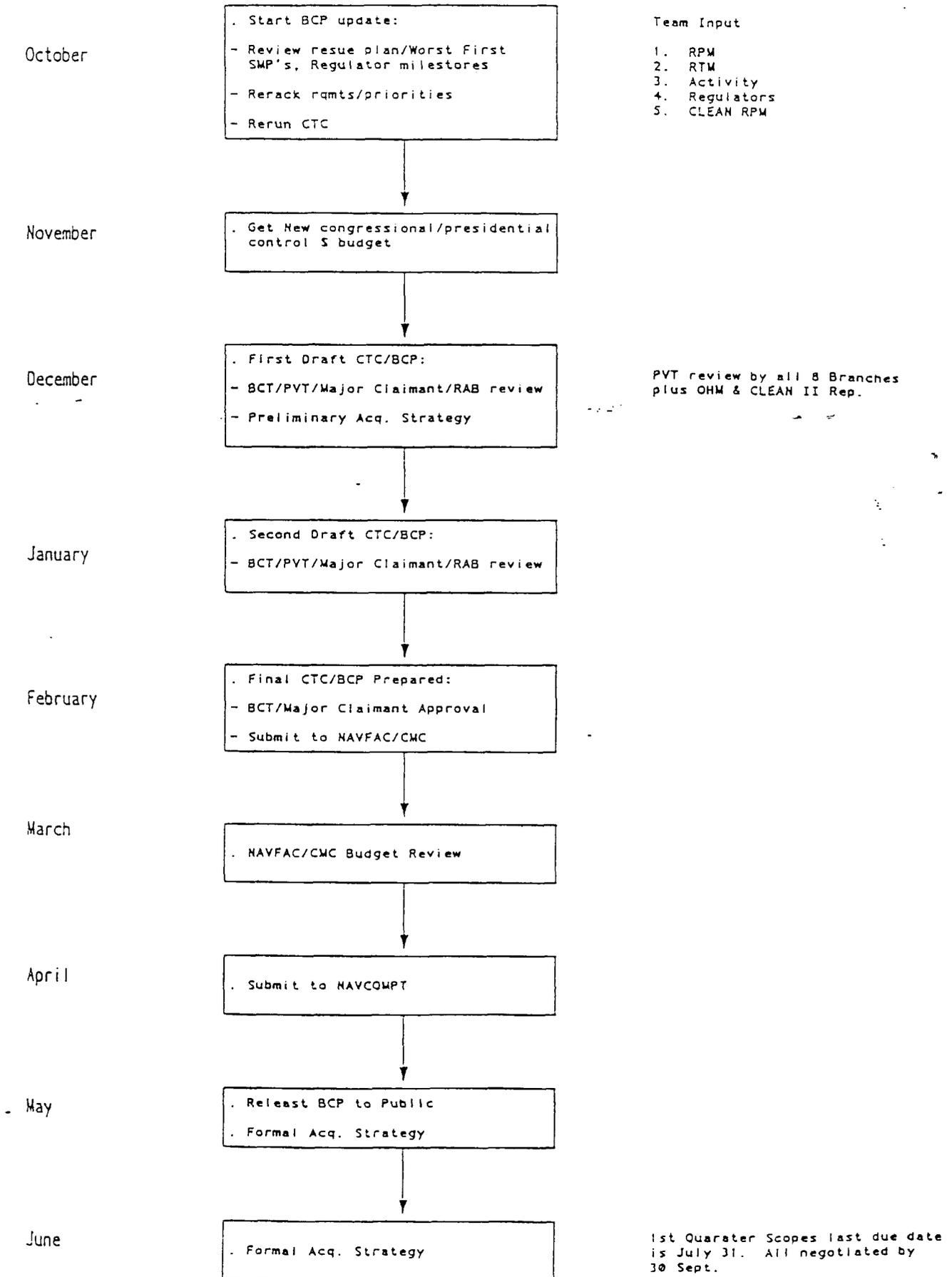
A member requested that RAB meetings not be scheduled on the last Tuesday of the month to avoid conflicts with Irvine City Council meetings. The next RAB meeting is scheduled for Thursday, March 30. The meeting was adjourned at 9:15 p.m.

Attachment

Navy Southwest Division Base Realignment and Closure Budget Timeline

SWDIV BRAC BUDGET TIMELINE

JAN 9, 1995



MARINE CORPS AIR STATION EL TORO
Installation Restoration Program
Restoration Advisory Board Mission Statement and Operating Procedures

The Restoration Advisory Board (RAB) mission statement and operating procedures, herein referred to as "the mission statement and operating procedures", is entered into by the following parties; U. S. Marine Corps (USMC); U. S. Environmental Protection Agency (USEPA), Region 9; California Department of Toxic Substances Control, Region 4 (DTSC); and the RAB. Marine Corps Air Station (MCAS) El Toro has developed a Community Relations Plan (CRP) which outlines the community involvement program. The RAB supplements the community involvement effort. A copy of the CRP is available at the information repository located at the Heritage Park Regional Library, 14361 Yale Avenue, Irvine, CA 92714.

I. Mission Statement of the RAB

a. The mission of the RAB is to promote community awareness and obtain timely constructive community review and comment on proposed environmental restoration actions to accelerate the cleanup and property transfer of MCAS El Toro. The RAB serves as a forum for the presentation of comments and recommendations to USMC, USEPA, and DTSC Remedial Project Managers.

II. Basis and Authority for this Mission Statement and Operating Procedures

a. This mission statement and these operating procedures are consistent with the new Department of Defense (DoD), USEPA Restoration Advisory Board Implementation Guidelines of September 27, 1994, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendment and Reauthorization Act (SARA) of 1986, particularly Sections 120 (a), 120 (f), 121 (f), and 10 U.S.C. 2705, enacted by Section 211 of SARA, and September 9, 1993, DoD policy letter entitled, "Fast Track Cleanup at Closing Installations".

III. Operating Procedures

A. Membership

1. All RAB members must reside in or serve communities within Orange County.
2. Members shall serve without compensation. All expenses incident to travel and review inputs shall be borne by the respective members or their organization.
3. Members are expected to attend all RAB meetings and fulfill member responsibilities. If a member fails to attend two consecutive meetings, or fulfill member responsibilities, the RAB co-chairs may ask the member to resign.
4. Members unable to continue to fully participate shall submit their resignation in writing to either of the RAB co-chairs.

5. Total membership in the RAB shall not exceed 50 members.

6. Open application for RAB membership vacancies will take place once a year. This process will begin September 1, 1995. Applications will be reviewed and approved by Remedial Project Managers from USMC, USEPA, and DTSC. The candidates will be notified of their selection by October 30.

7. Each community RAB member is considered equal, whatever their position in the community, and has equal rights and responsibilities.

RAB Membership Responsibilities

a. Review, evaluate, and comment on technical documents and other material related to installation cleanup; all assigned tasks are to be completed in the time assigned.

b. Attend all RAB meetings.

c. Report to organized groups to which they may belong or represent, and to serve as a mediator for information to and from the community.

d. Serve in a voluntary capacity.

B. RAB Structure

1. The RAB shall be co-chaired by the MCAS El Toro Base Realignment and Closure (BRAC), Environmental Coordinator (BEC), and a community co-chair member. The BEC shall preside over the orderly administration of membership business.

2. A community co-chair will be selected by a majority vote of the RAB community members in attendance. Elected officials and government agency staff members of any legally constituted MCAS El Toro reuse groups are excluded from holding the co-chair position. Community co-chairs will be selected annually on the anniversary of the effective date of the agreement.

Community Co-Chair Responsibilities

a. Assure that community issues and concerns related to the environmental restoration/cleanup program are brought to the table.

b. Assist the USMC in assuring that technical information is communicated in understandable terms.

c. Coordinate with the BEC to prepare and distribute an agenda prior to each RAB meeting, and for the review and distribution of meeting minutes.

d. Assist subcommittees in coordinating and establishing meeting times/locations.

e. The RAB community co-chair may be replaced by a majority vote of the RAB community members present at the meeting in which a vote is undertaken.

3. The RAB shall meet quarterly. More frequent meetings may be held if deemed necessary by the RAB co-chairs. The BEC will facilitate in the arrangement of the meetings and notify members of the time and location.

4. Agenda items will be compiled by the co-chairs. Suggested topics should be given to the BEC or community co-chair not later than two (2) weeks prior to the meeting. The BEC shall be responsible for providing written notification to all RAB members of the upcoming agenda and supporting documents, at least two (2) weeks prior to the date, time, and place of scheduled RAB meeting.

5. The BEC shall be responsible for recording and distribution of meeting minutes. Also, the BEC shall collect a written list of attendees at each meeting, which will be incorporated into the meeting minutes. For quarterly meetings, the minutes will be distributed 30 days prior to the following meeting. For more frequent meetings, the minutes will be distributed as soon as possible.

6. A copy of the RAB meeting minutes will be sent to all RAB members. Supporting documents will be available for public review in the information repository and other repositories as identified.

7. RAB members will be asked to review and comment on various environmental restoration documents. Written comments may be submitted individually by a member, or by the RAB as a whole. Written comments will be submitted to the community co-chair on the subject documents within the schedule as provided for regulatory agency comments. The community co-chair will consolidate comments from RAB members and provide all comments received to the BEC. The BEC will ensure that a written response is provided to the RAB in a timely manner.

8. The RAB will develop subcommittees, which will provide a concentrated focus on assigned issues. Assignments will be based on the needs of the RAB.

a. Subcommittees will consist of standing subcommittees and ad hoc committees.

- Membership on subcommittees will be comprised of volunteers, or may be selected by the BEC and the Community Co-chair. Subcommittee membership will generally be limited to seven (7) people, but may be supplemented at the discretion of the subcommittee chair. All subcommittees will set their own agendas and meeting times, will be open to the public, and will notify the BEC and co-chair of the meeting times and places. Each subcommittee will elect a chair. The

subcommittee membership may dismiss a subcommittee chair by a majority vote. Subcommittee chair removal is determined at the meeting where removal is addressed by majority vote of the RAB members present.

b. RAB members may serve on one or more subcommittees, but may not chair more than one subcommittee.

c. Standing subcommittees are established as follows:

- (1) BRAC Clean-up
- (2) General Environmental
- (3) Community Environmental Response Facilitation Act/Environmental Baseline Survey (CERFA/EBS)
- (4) Compliance/Resource Conservation and Recovery Act-Facility Assessment (Compliance/RFA)
- (5) Operable Unit One (OU1) - Ground Water
- (6) Operable Unit Two (OU2) - Landfills
- (7) Operable Unit Three (OU3) - All other sites

d. Membership on the BRAC Clean-up Subcommittee will include at a minimum, the BEC, the Community Co-Chair, and the chairs of each of the other standing subcommittees.

e. Standing subcommittees will be reviewed annually, in September, to determine if their continued existence is required.

f. Ad hoc subcommittees will be established as needed and will be limited to one year.

9. MCAS El Toro has established an information repository for all public documents relating to restoration activities at MCAS El Toro. The repository is located at the Heritage Park Regional Library, 14361 Yale Avenue, Irvine, CA 92714. RAB members, as well as the general public, are authorized access to any documents, studies or information, which have been placed in the repository or distributed at RAB meetings. The RAB community co-chair will be provided one copy of all draft documents. Each subcommittee will be provided up to seven copies of draft documents.

IV. Effective Date and Amendments

a. The effective date of this mission statement and operating procedures shall be the date that the last signatory signs this mission statement and operating procedures.

b. This mission statement and operating procedures may be amended by a majority vote of the RAB members present. Amendments must be consistent with the MCAS El Toro Federal Facility Agreement (FFA), and the statues stated in Part II of the mission statement and operating procedures, (Basis and Authority for this Mission Statement and Operating Procedures).

V. Terms and Conditions

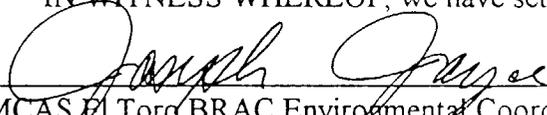
a. The terms and conditions of this RAB mission statement and operating procedures, and DON's endorsement thereof, shall not be construed to create any legally enforceable rights, claims or remedies against DON or commitments or obligations on the part of DON, and shall be construed in a manner that is consistent with CERCLA, 10 U.S.C. Section 2705, and 40 CFR Part 300.

VI. Termination

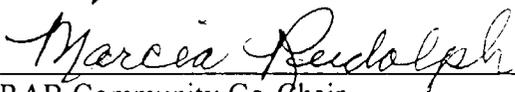
a. This mission statement and operating procedures will be terminated upon completion of requirements as stated in the FFA. However, after implementation of the final remedial design, it may be terminated earlier upon a majority vote of the RAB membership.

VII. Signatories to the Membership Mission Statement and Operating Procedures

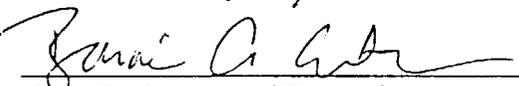
IN WITNESS WHEREOF, we have set our hand this 2nd day of FEBRUARY 1995.



MCAS El Toro BRAC Environmental Coordinator



RAB Community Co-Chair



U. S. Environmental Protection Agency RPM



California Department of Toxic Substances Control
RPM

COMMUNITY ENVIRONMENTAL RESPONSE FACILITATION ACT (CERFA)

- Enacted on October 19, 1992 as Public Law 102-426.
- Amends the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.
- Describes the operation of federal facilities under CERCLA.
- Facilitates base closure and reuse by identifying real property owned by the government on which no hazardous substances were stored, released, or disposed.
- Parcels available for expeditious reuse by BRAC-affected communities and transfer by deed.
- 18 months from the date of closure selection.

DOD IMPLEMENTATION OF CERFA

Objectives of DOD Policy on CERFA Implementation:

- Ensures for human health and environment
- Documents uncontaminated parcels
- Coordinates involvement from public and regulatory agencies

These objectives are achieved by conducting the

Environmental Baseline Survey (EBS)

ENVIRONMENTAL BASELINE SURVEY (EBS)

Based on all existing environmental information including:

- Installation Restoration Program (IRP), and
- MCAS El Toro and regulatory agencies' information related to storage, release, treatment and disposal of hazardous substances*

*according to "List of Hazardous Substances and Reportable Quantities" and as defined in 40 CFR Part 261

PROCEDURES OF THE EBS

- Detailed records search of all DOD records information
- Review of all obtainable Federal, state, and local government records
- Analysis of aerial photography
- Interview current/former employees

PROCEDURES OF THE EBS (continued)

- Visual Site Inspections (VSI) of real property including buildings, other structures, equipment, or other improvements on the real property.
- Identification of contamination sources on installation and adjacent properties which could migrate to the parcel.
- Physical inspection of adjacent property to the extent permitted by owners.

EBS REPORT STRUCTURE

1. Summary
2. Identification of properties
3. Information from records search
4. Information from the chain of title search
5. Description of past and current activities

EBS REPORT STRUCTURE (continued)

6. Description of hazardous substances or petroleum products management practices (to include storage, release, treatment and/or disposal)
7. Information on adjacent properties
8. Descriptions of ongoing response actions
9. References to key documents

EBS ADVANTAGES

- Notifies lessees or property recipient of storage, release or disposal of hazardous substances, as required under CERCLA
- Identifies uncontaminated parcels, as required under CERFA
- Supports preparation of a Finding of Suitability to Lease (FOSL) or Transfer (FOST)
- Supports preparation of an environmental condition report at the inception and termination of a lease
- Assists Navy/Marine Corps in fulfilling due diligence requirements in real estate transactions
- Provides useful reference document

**MCAS El Toro
Draft Environmental Baseline Survey
11 November 1994**

“Some” Objectives:

- Present an assessment of the environmental condition* of property, as of September 1994
- Identify CERFA “uncontaminated” parcels
- Provide maps that represent the environmental condition of base property

* Environmental condition = DOD property categories 1 through 7, 1 being CERFA uncontaminated.

DRAFT EBS FINDINGS

1. 2,527 acres of category 1, CERFA uncontaminated property
2. 48 acres of categories 2, 3, & 4 property
3. 2,163 acres of categories 5, 6, & 7 property

Note: Categories 1 through 4 are:

- No threat to human health or environment
- Transferable by deed

Over 800 Locations of Concern (LOCs) were identified

EBS: STEPS TOWARD CONCURRENCE ON CERFA

- DOD makes CERFA determination
- EBS report provided to USEPA and state and local officials
 - Formal Request for concurrence is made to the USEPA or designated representative
- Becomes available to public
- DOD addresses relevant comments from regulatory agencies and public for 90 days after submittal of comments.
- 120 days after submittal of EBS report with regulatory comments and DOD responses to those comments, signed regulatory concurrence will be included in the installation records.

MAJOR CERFA/EBS SUBCOMMITTEE COMMENTS

- Stated objective of EBS should be to serve as a platform for future property transfer documents.
- Provided good opportunity to satisfy CERCLA notification requirements for storage, release, or disposal of hazardous substances.
- All buildings should be evaluated and categorized in this report (DOD Policy 2e). Suggest all environmental factors associated with buildings be identified in table or chart.
- Typical environmental factors not clearly addressed in EBS.

CERFA/EBS SUBCOMMITTEE COMMENTS (continued)

- Need updated groundwater flow data.
- Report does not specify what level of contamination is acceptable for inclusion in Categories 3 & 4.
- Maps should be color coded for clarity.
- Many CERFA parcels are located in close proximity to unevaluated and contaminated land.
- Draft EBS inconclusive on much of property.

CONCLUSION

- EBS should be more specific in defending its findings (i.e. description of LOC).
- EBS should delineate contaminated or unevaluated land near CERFA parcels.
- EBS should evaluate all of the real property or base.

CLOSING ON EBS PROCESS

- The environmental evaluation of real property at MCAS El Toro is pivotal to reuse.
- EBS is where restoration meets reuse and where the rubber meets the road at a BRAC installation.

Guidance

In order to prepare an environmental condition of property map, evidence must be gathered that screens base property at a high level of confidence into seven area types. These seven area types or categories are as follows:

- 1) Areas where no storage, release, or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas)
- 2) Areas where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from adjacent areas has occurred)
- 3) Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action
- 4) Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all remedial actions necessary to protect human health and the environment have been taken
- 5) Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, removal and/or remedial actions are under way, but all required remedial actions have not yet been taken
- 6) Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but required response actions have not yet been implemented
- 7) Areas that are unevaluated or require additional evaluation

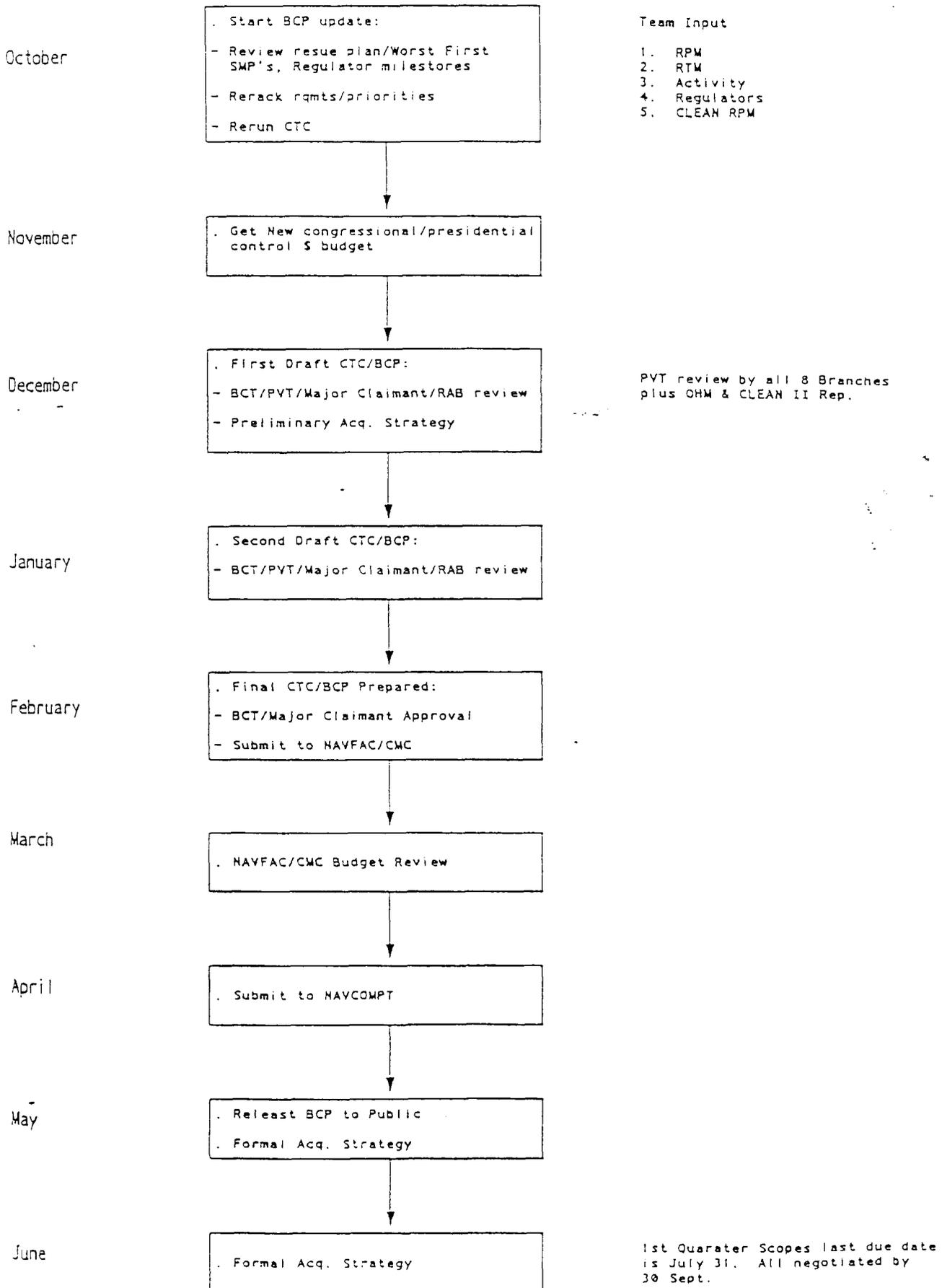
The paragraphs that follow further define these area types or categories. Note that the terms "contaminant" and "hazardous substance" used in this section mean all CERCLA hazardous substances [42 U.S.C. § 9601(14)], and also specifically include petroleum, petroleum products, oil, and lubricants.

- 1) **Areas where no storage, release or disposal (including migration) has occurred.** This area type is defined as follows: a geographically contiguous and mappable area where the results of investigations show

- 4) **Areas where all remedial action has been taken.** This area type is defined as follows: a geographically contiguous and mappable area where all remedial actions necessary to protect human health and the environment have been taken. Type 4 areas include those areas in which an EBS documents evidence that hazardous substances are known to have been released or disposed of on the property, but all remedial actions necessary to protect human health and the environment with respect to any hazardous substances remaining on the property have already been taken to meet the provisions of CERCLA § 120(h)(3). Clarification on the meaning of "all remedial action has been taken" is found in Section 120(h)(4)(B)(i) of CERCLA. BRAC Cleanup Teams preparing suitability of property for transfer maps should be aware that "all remedial action has been taken" means that the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to EPA to be operating properly and successfully (in practice, usually a year).
- 5) **Areas of known contamination with removal and/or remedial action under way.** This area type is defined as follows: a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances or petroleum products (including derivatives) is confirmed based on the results of sampling and analysis in electronic databases and/or environmental restoration and compliance reports. By definition, this area type contains contaminant concentrations **above action levels**. Such concentrations do not meet the criteria that would allow a determination of a Type 3 area. Remedial systems for Type 5 areas are partially or entirely in place, but have not been fully demonstrated.
- 6) **Areas of known contamination where required response actions have not yet been implemented.** This area type is defined as follows: a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances or petroleum products (including derivatives) is confirmed based on the results of sampling and analysis as contained in electronic databases and/or environmental restoration and compliance reports. This area type contains concentrations of contaminants **above action levels**. Such concentrations do not meet the criteria that would allow a determination of a Type 3 area. Additionally, required remedial systems have not been selected or implemented.
- 7) **Areas that are unevaluated or that require further evaluation.** This area type is defined as follows: a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances or petroleum products (including derivatives) is suspected, but not well characterized, based on the results of a properly scoped records search, chain of title review, aerial photography review, visual inspection, set of employee interviews, and possibly sampling and analysis. They do not, with certainty, fit any of the previous area types because evaluation efforts have not occurred, are ongoing, or are inconclusive.

SWDIV BRAC BUDGET TIMELINE

JAN 9, 1995





DEVELOPING CLEANUP LEVELS

FEBRUARY 28, 1995

Bonnie Arthur

Remedial Project Manager

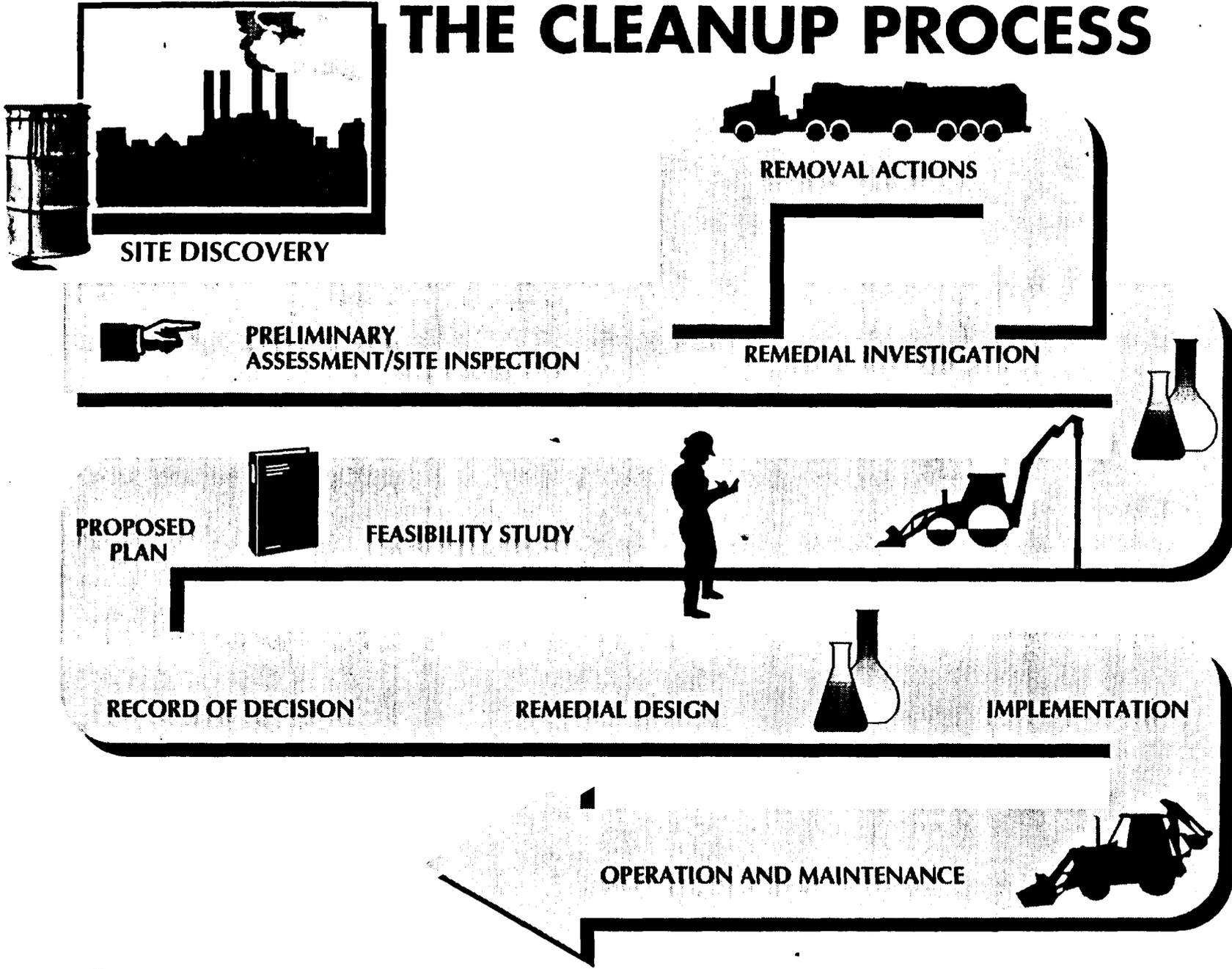
CLEANUP LEVELS

- **APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)**
- **RISK ASSESSMENT-HUMAN HEALTH**
- **RISK ASSESSMENT- ECOLOGICAL**
- **RISK MANAGEMENT DECISIONS, IF NECESSARY**

**COMPREHENSIVE ENVIRONMENTAL RESPONSE,
COMPENSATION AND LIABILITY ACT (CERCLA)
REQUIRES THAT A REMEDIAL ACTION,
UPON COMPLETION, MUST SATISFY
TWO REQUIREMENTS:**

- 1) BE PROTECTIVE OF HUMAN HEALTH AND
THE ENVIRONMENT**
- 2) MEET APPLICABLE OR RELEVANT AND
APPROPRIATE REQUIREMENTS (ARARs)**

THE CLEANUP PROCESS



APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

- **LEGALLY ENFORCEABLE CLEANUP STANDARDS**
- **FEDERAL OR STATE ENVIRONMENTAL LAWS**

ARARs :

- **MUST SPECIFICALLY ADDRESS A SITUATION (APPLICABLE)**

OR

- **ADDRESS PROBLEMS OR SITUATIONS WHICH ARE SUFFICIENTLY SIMILAR TO THOSE AT A SITE (RELEVANT) THAT THEIR USE IS WELL SUITED (APPROPRIATE)**

EVALUATE ARARs



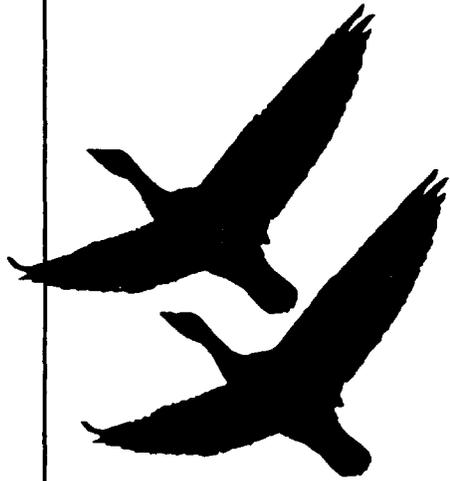
**EVALUATE RESULTS OF HUMAN HEALTH
AND ECOLOGICAL RISK ASSESSMENTS**



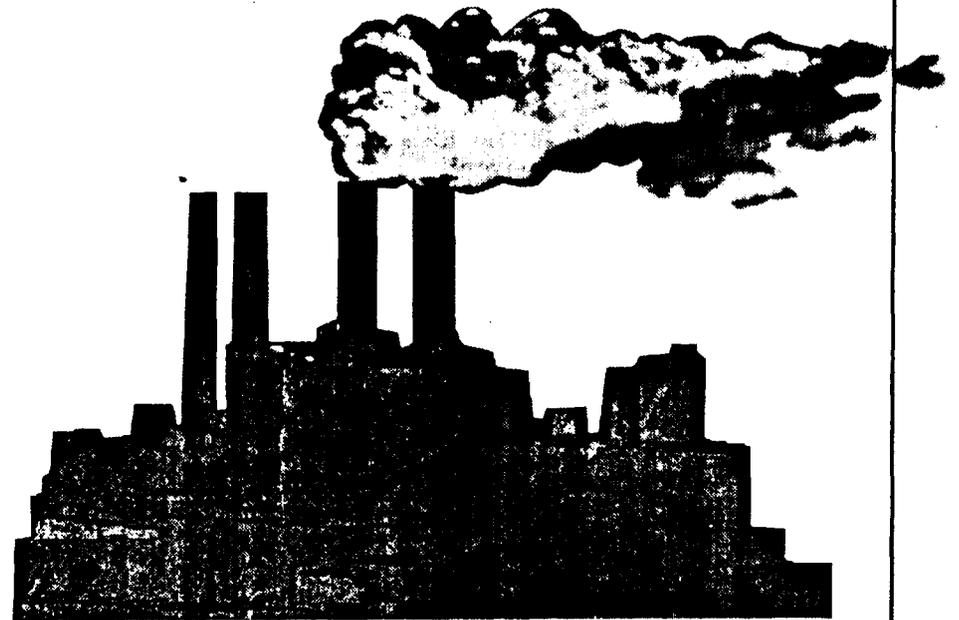
**DEVELOP REMEDIAL ACTION OBJECTIVES
TO ELIMINATE OR REDUCE HAZARDS**

RISK MANAGEMENT EXAMPLE

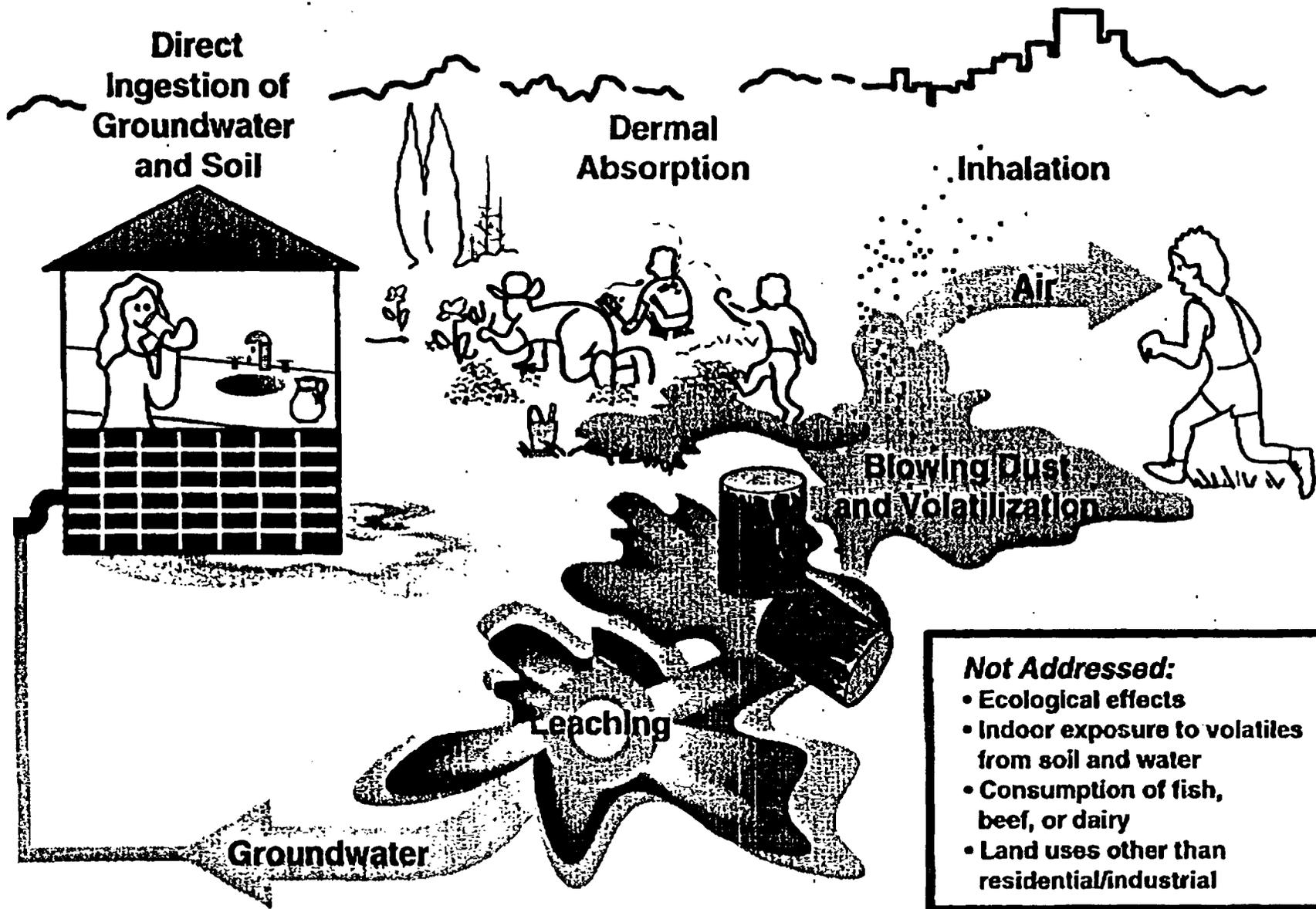
Superfund Site



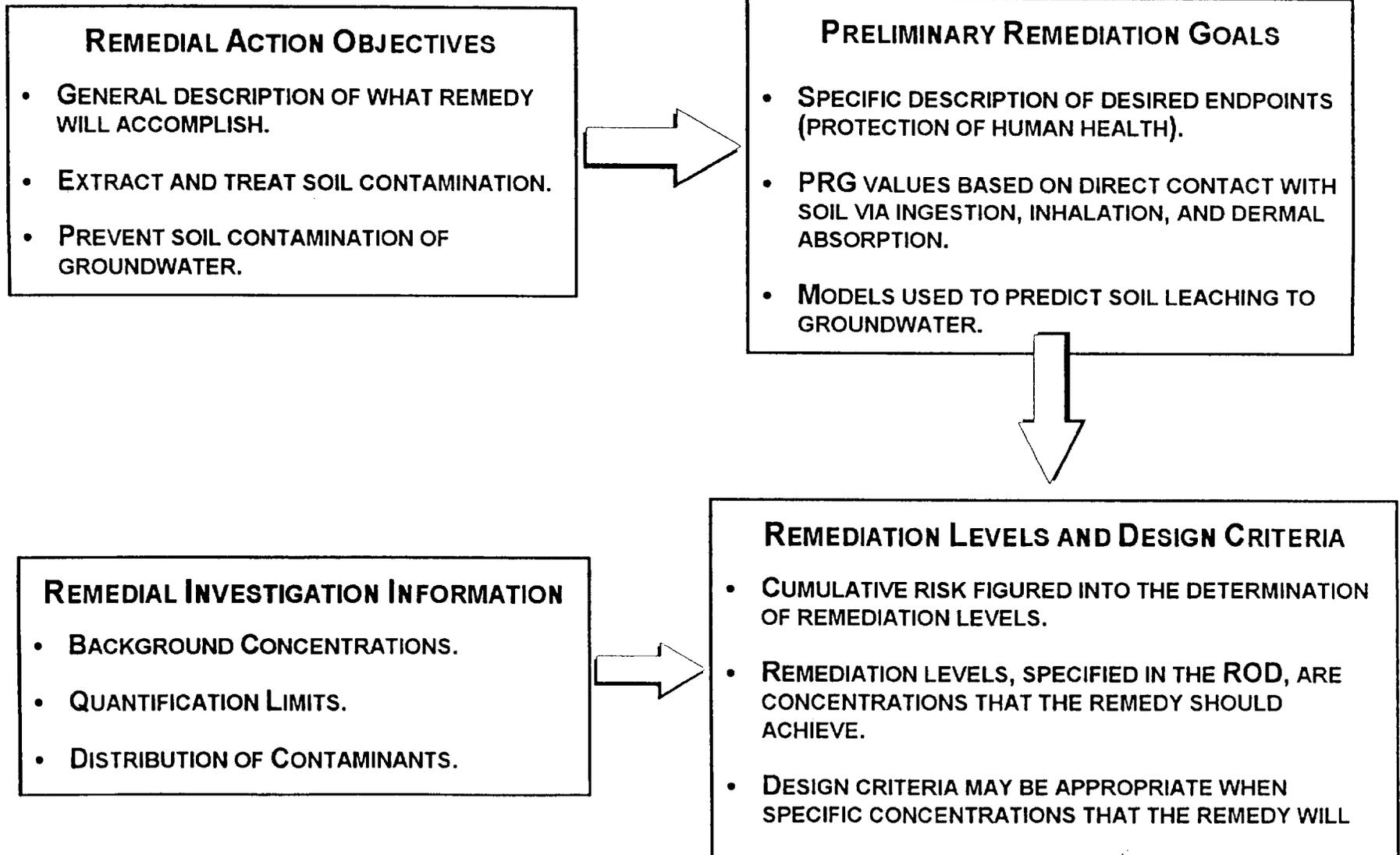
Wetlands



Pathways Addressed by Preliminary Remediation Goals (PRGs)



SOIL REMEDIATION LEVELS



Ecological Risk Assessments

- *Phased Approach*
- *Combine Predictive and Ecological Field Studies*
- *Interactive, Cooperative Development*
- *More Uniform Assessments*

Predictive Assessments

■ *Benefits*

- *Toxic Concentrations Well Defined*
- *Specific Toxic Effects Well Defined*

■ *Negatives*

- *Exposures Not Well Defined*
- *Requires Extrapolation to Ecological Effects*

Ecological Field Studies

■ *Benefits*

- *Directly Assess Ecological Parameters*

■ *Negatives*

- *Variance in Ecological Parameters*
 - *Site-to-Site*
 - *Seasonal*
 - *“Unexplained” (Random)*

Phases of Ecological Assessment

- *Scoping Assessment*
- *Phase I Predictive Assessment*
- *Phase II Validation Study*
- *Phase III Impact Assessment*

Scoping Assessment

- *Chemicals of Ecological Concern*
- *Representative Species*
- *Potentially Complete Exposure Pathways*
- *Site Conceptual Model*

Ecological Assessment Summary

- *Phased*
- *Combines Predictive and Field Components*
- *Makes Risk Management Decisions Explicit*
- *Allows Coordination with HHRA and NRDA*

Phase I Predictive Assessment

- *Reference Dose for Terrestrial*
- *Reference Concentration for Aquatic*
- *Presentation as Hazard Index for Both*

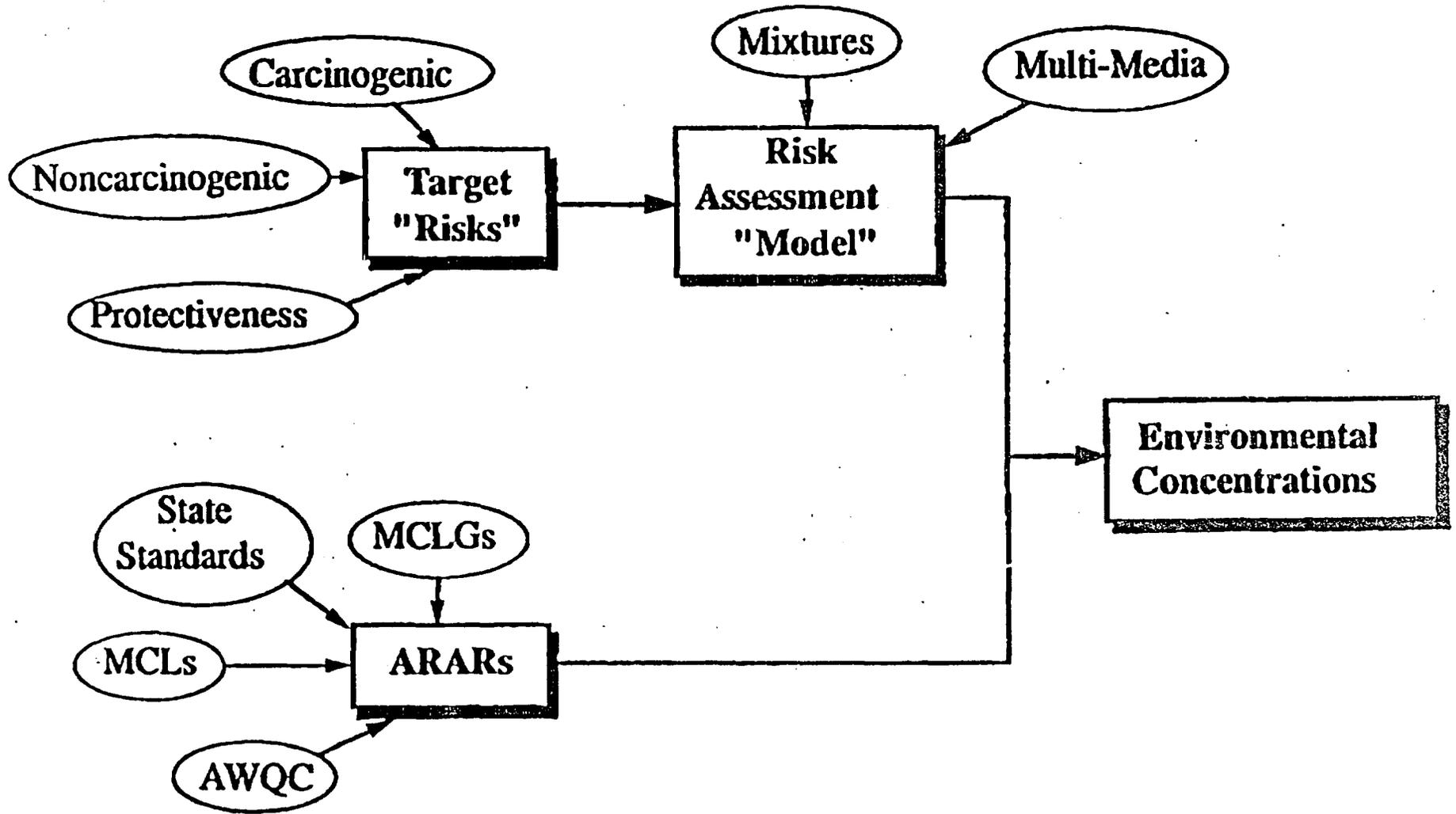
Phase II Validation Study

- *Required*
- *Verify Conclusion of Predictive Assessment*
 - *Maximally-exposed Receptor*
 - *Most Uncertain Transfer Factors*

Phase III Impact Assessment

- *Field or Laboratory Studies*
- *More Complex, Lengthy Studies*
- *Site Specific*

DEVELOP PRELIMINARY REMEDIATION GOALS



REVISED

MCAS EL TORO

RESTORATION ADVISORY BOARD SUBCOMMITTEE

DOCUMENT REVIEW PROCESS & REPORTING PROCEDURES

1. Document distributed to all members by BEC through contractors
(contact: Vish Parpiani, MCAS El Toro Point of Contact--714-726-3386)
2. Chair sets review schedule (*from document list*)
3. All members must provide written acknowledgement of their review to chair. If a member has no comments he/she must still send the chair a statement to that effect.
4. Chair compiles all comments and prepares transmittal letter
5. Chair forwards comment package to the Community Cochair
6. Community Cochair sends comment package to the BEC