



Proposed Plan For Former Skeet Range (IR Site 29) Alameda Point, California



February 2005

Navy Proposes No Further Action at the Former Skeet Range

The Department of the Navy encourages the public to comment on its Proposed Plan for no further action at the former Skeet Range, identified as Installation Restoration (IR) Site 29 at the former Naval Air Station, now referred to as Alameda Point, in Alameda, California. This proposed decision is based on extensive field investigations, laboratory analyses, interpretation of the data, review of current and future conditions, and thorough assessment of the potential human health and ecological risks. The Navy concluded based on these investigations that current and future conditions at the site do not present an unacceptable risk. Based on these findings, there are also no land use restrictions, environmental monitoring, or RCRA corrective action required at the site.

This Proposed Plan provides a summary of a Remedial Investigation (RI) performed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to support the transfer and redevelopment of the offshore property by the Alameda Reuse and Redevelopment Authority (ARRA) and presents

supporting information for the Navy's proposed recommendation for no further action at the site.

Following a thorough review of this information and consultation with the Department of the Interior Fish and Wildlife Service and the California Department of Fish and Game, the Alameda Point Base Realignment and Closure (BRAC) Cleanup Team concurs with the Navy's proposed determination that no further action is required at the Skeet Range. The BRAC Team is comprised of representatives from the Navy, U.S. Environmental Protection Agency Region 9 (U.S. EPA), California Environmental Protection Agency Department of Toxic Substances Control (DTSC), and California Regional Water Quality Control Board (RWQCB).

We invite you to review and provide comments on this Proposed Plan during the public comment period from February 15 through March 18, 2005. You may submit your written comments to us and/or attend the public meeting on March 7, 2005 (see below for details).

Opportunities for Community Involvement

Public Meeting: March 7, 2005 from 6:30 pm to 8:00 pm
Building 1, Room 201 at Alameda Point, California

You are invited to this community meeting to discuss the information presented in this Proposed Plan for no further action at the former Skeet Range (IR Site 29). You will have an opportunity to ask clarifying questions and formally provide comments to Navy representatives who will be on hand to provide visual displays and information on the environmental investigations and no further action proposal.

Comment Period: February 15 through March 18, 2005

We encourage you to comment on this Proposed Plan and supporting documents during the 30-day public comment period. Comments may be submitted orally or in writing at the public meeting, or you can mail written comments postmarked no later than March 18, 2005 to: Mr. Thomas Macchiarella, BRAC Environmental Coordinator, Program Management Office West, 1230 Columbia Street, Suite 1100, San Diego, CA 92101 or by fax (619) 532-0940.

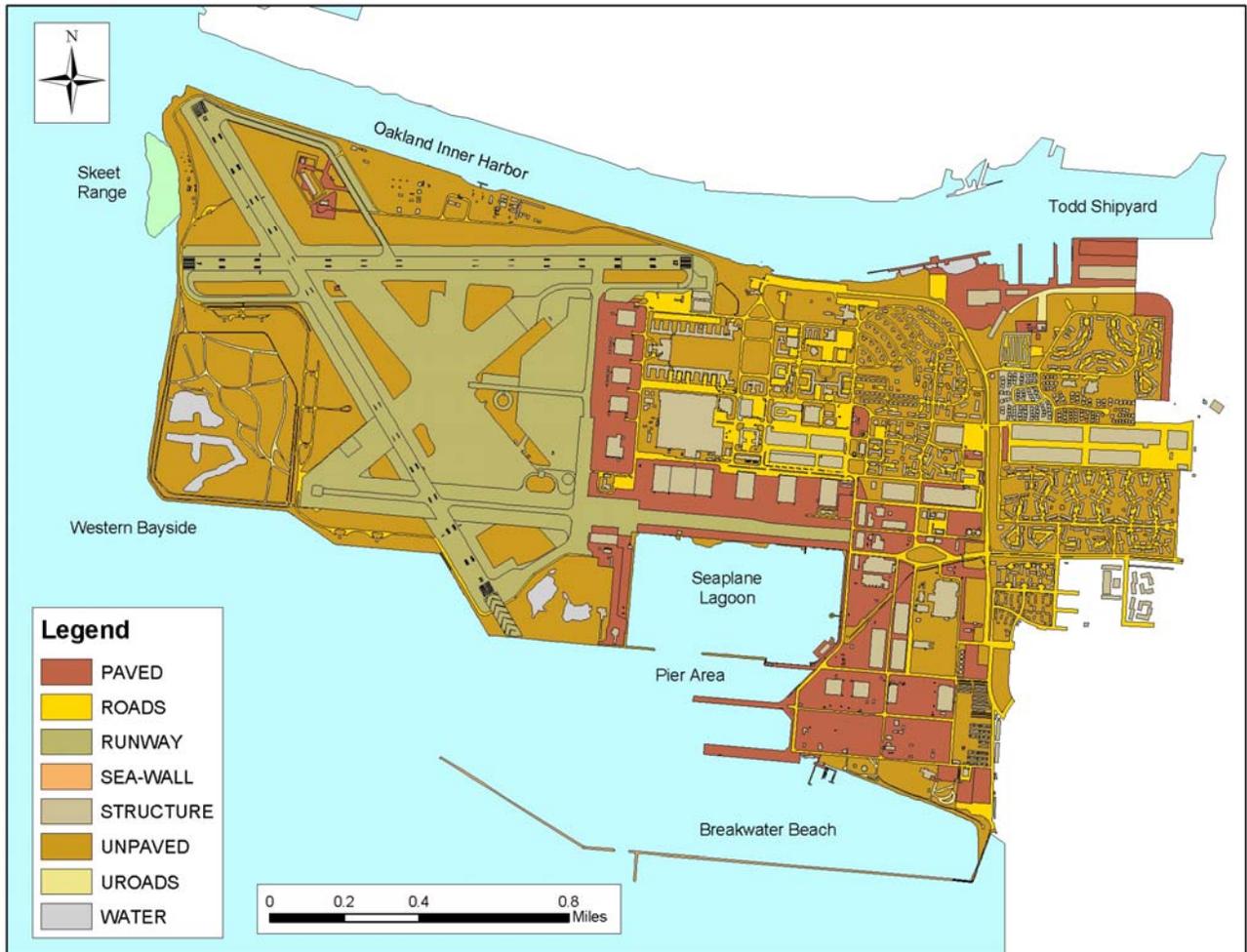


Figure 1. Location of Skeet Range at Alameda

Following consideration of the comments, a final decision document known as the Record of Decision (ROD), will be issued. The supporting documents describing the field investigation, laboratory analysis, and risk assessments are part of the Alameda Point Administrative Record and are available for your review at the BRAC Information Repositories:

Alameda Point	Alameda Public Library
950 West Mall Square	2200 A Central Ave
Building 1	Alameda, California
Alameda, California	

Site Background

The former Skeet Range is located on the northwestern corner of Alameda Point (See Figure 1). The Skeet Range consisted of two main shooting ranges (Northern and Southern) that were actively used for 30-40 years until

their closure in 1993. At the Skeet Range, lead shot were discharged from guns toward clay pigeon targets projected westerly over San Francisco Bay. As a result, lead shot as well as clay target fragments (See Photo 1) reside in the offshore sediment adjacent to the Skeet Range, concentrated in an offshore area approximately 1,300 feet by 800 feet in average water depths ranging from 5 to 12 feet mean low low water. The adjacent shoreline beach areas will be investigated as part of IR Site 1. The clay pigeon targets were bound together with petroleum products that contain polycyclic aromatic hydrocarbons (PAHs). Based on these historical activities, concerns were raised about possible adverse effects to humans and wildlife resulting from exposure to lead and PAHs in the offshore area.

ID: AAE-597-B/C
Station: SK-30
Depth: 5-10 cm
Collected: Nov. 10, 2001



Site Characterization Investigations

Photo 1. Clay Target Fragments

1996 – 1998 Skeet Range Site Evaluation

In 1996 and 1998, sediment samples were collected and sieved to count the lead shot present. Based on this evaluation, the density of shot is highest where the northern and southern shooting ranges overlap. Data were then collected to determine if lead from the shot was dissolving into the surrounding sediment and becoming biologically available to ecological receptors. Dissolved lead concentrations were measured in sediment and porewater (defined as water found in the void spaces between sediment particles) samples. The maximum lead concentration reported in surface sediments is below conservative ecological screening levels (i.e., effects range-low value of 47 mg/kg) and the average concentration is below the California Regional Water Quality Control Board (RWQCB) ambient value in sediment (85th percentile equal to 43.2 mg/kg). In addition, lead was not detected in porewater. Based on these findings, it was concluded that lead is not dissolving in quantities that would cause adverse ecological impacts.

2001 Skeet Range Site Evaluation

In 2001 samples were collected to: 1) further define the lateral and vertical extent of lead shot in sediments to determine the potential for exposures to human and ecological receptors; 2) evaluate the extent of vertical mixing of lead shot based on the sedimentation rate; and 3) determine if PAHs present at the site are associated with fragments of the clay pigeon

targets. Forty surface sediment samples and 25 sediment cores (See Photo 2) were collected within the area and analyzed for lead shot and PAHs.

The results indicated that the majority of the lead shot present at the site was buried at depths greater than 5 cm. A radioisotope study of the area estimated a sediment accumulation rate of between 0.65 and 1 centimeter per year, confirming that the majority of lead shot at the site are likely to be buried below 5 cm.

Additionally, the results of the 2001 investigation indicated that PAHs in sediments at the site were unrelated to the Skeet Range activities. Clay target fragments found in the course of the investigation were studied and results demonstrate that the PAHs in the sediment samples are chemically distinct from the PAHs in clay fragments, indicating that those in sediment are primarily associated with other background sources of PAHs from throughout the San Francisco Bay area.

Based on these results, risk assessments were conducted to determine the potential health effects to human and ecological receptors at the site.



Photo 2. Sediment Cores Collected from the Skeet Range

Site-Specific Risk Assessments

As part of the RI, a human health risk assessment and an ecological risk assessment were conducted to assess risk to human health and the environment. A summary of these evaluations is provided below.

Ecological Risk Assessment

The ecological risk assessment was conducted following US EPA and Navy guidelines. Based on the historical use of the area as a Skeet Range, lead shot and PAHs were identified as preliminary chemicals of potential concern (COPCs).

Earlier data demonstrated that the lead from the lead shot was not dissolving into the surrounding sediment, thus eliminating direct pathways for most ecological receptors. However, diving ducks (See Photo 3) that may be exposed by ingesting lead shot in the sediment during typical foraging activities were identified as receptors of concern. Diving ducks generally dive into the water and forage for organisms living in the top 5 cm of sediment and may inadvertently or intentionally select lead shot as grit (i.e., shellhash) from sediment for grinding down shellfish in their gizzard.

As part of the risk assessment, models which took into account the field-collected lead shot data, available information on the toxicity of



Photo 3. Scaups are Diving Ducks found in San Francisco Bay

lead shot to birds, and exposure factors such as the amount of time that a bird spends foraging at the site predicted that risks to diving ducks associated with the lead shot would be minimal. Specifically, the models demonstrated that approximately 96% of the time, less than 1 in 1000 birds foraging at the site would be at risk, indicating that birds at Alameda Point are very unlikely to be exposed to lead shot at harmful levels.

In summary, the ecological risk assessment determined that there are no unacceptable ecological risks in the sediments offshore of the former Skeet Range and that the ecological community is not impacted.

Evaluation of Potential Human Health Risks

To evaluate the potential risks to human health, a conceptual site model (CSM) was developed to identify the potential exposure pathways through which likely human receptors might come in contact with impacted sediment at the site.

Installation Restoration Program

Preliminary Assessment / Site Inspection	Remedial Investigation	Feasibility Study	No Further Action Proposed Plan/ Public Comment Period	Record of Decision
COMPLETE		NOT APPLICABLE		TO BE DONE 
Potential contamination at Alameda Point initially assessed starting in 1985. The Skeet Range was identified as a specific area of concern following the 1994 Ecological Assessment for former NAS Alameda.	EBS and RI identified sources and areas of contamination and potential risk from 1992 through 2004	Based on human health and ecological risk assessment results, potential current and future risks associated with exposure to sediments at the site are insignificant. Therefore a Feasibility Study is not applicable and was not conducted.	The Public has the Opportunity to comment on the Navy's recommendation for no further action	The final decision for the CERCLA site and responses to public comments are documented in the final Record of Decision

Under both current and future site conditions, the likely human receptors at the site would be on-site workers (current), recreational users (future) and off-site outdoor maintenance workers (future). However, the primary site-related contaminants (lead shot and PAHs from the clay targets) are located approximately 80 feet offshore, in water depths averaging 5 ft or greater. As a result, direct human exposures (such as dermal contact or ingestion of sediment) are very limited under current or future conditions and no complete direct exposure pathways were identified in the CSM.

It is also possible for humans to be exposed through indirect exposure pathways, such as by eating fish that have been exposed to site-related contaminants. However, neither lead nor PAHs are known to be retained in the edible tissues of exposed fish. As a result, the human health CSM also did not identify any complete indirect exposure pathways for humans.

The human health risk assessment determined that there are no complete pathways in which humans would be exposed to site-related contaminants of concern.

Comment Period and Public Meeting

Based on the human health and ecological risk assessment results, it was concluded that

potential current and future risks associated with exposure to sediment at the Skeet Range were insignificant. Consequently, the Navy, together with the EPA, DTSC, and RWQCB recommend no further action is warranted at the site. Supporting documents that provide more details regarding the field investigations and RI report can be found at the information repositories (see locations listed on Page 1).

The 30-day public comment period is February 15 through March 18, 2005. We welcome your input during this review period as well as your attendance at the public meeting on March 7, 2005 at 6:30 pm - 8:00 pm at Alameda Point, Building 1, Room 201.

There are two ways to provide comments during the public comment period:

- 1. Offer oral comments during the March 7, 2005 public meeting**
- 2. Written comments postmarked no later than March 18, 2005.**

Written comments may be sent to:

Mr. Thomas Macchiarella
BRAC Environmental Coordinator
Program Management Office West
1230 Columbia Street, Suite 1100
San Diego, CA 92101
(619) 532-0907

For Additional Information

The Alameda Base Cleanup Team (BCT) encourages community involvement in the decision-making process of the environmental restoration program at Alameda Point. If you have any questions or concerns about environmental activities at Alameda Point, please feel free to contact any of the following project representatives:

Ms. Anna-Marie Cook
Project Manager
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901
(415) 972-3029

Ms. Marcia Y. Liao
Project Manager
Department of Toxic
Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
(510) 540-3767

Ms. Judy Huang
Project Manager
San Francisco Bay Regional
Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
(510) 622-2363

Glossary / Acronyms

Alameda Reuse and Redevelopment Authority (ARRA): A joint powers authority formed between the County and the City of Alameda to direct the reuse process of the former Naval Air Station Alameda.

Base Realignment and Closure (BRAC) Program: A program established by Congress under which Department of Defense installations undergo closure, environmental cleanup, and property transfer to other federal agencies or communities for reuse.

Base Cleanup Team (BCT): Comprised of representatives from the Navy, U.S. EPA Region 9, DTSC, and the RWQCB

Chemical of Potential Concern (COPCs): A chemical at a site in soil, sediment, groundwater, or surface water, at concentrations that may potentially pose a threat to human health and the environment.

Centimeter (cm)

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA): Also known as Superfund, CERCLA is the federal law that regulates environmental investigation and cleanup of sites identified as possibly posing a risk to human health and the environment.

CSM: Conceptual Site Model

California Environmental Protection Agency Department of Toxic Substances (DTSC): California's environmental protection agency (also known as Cal/EPA)

Environmental Baseline Survey (EBS): One of the first steps in the Navy's IRP to evaluate the environmental condition of property for transfer.

Ecological Risk Assessment (ERA): An evaluation of the potential hazard to plants, animals, and their habitat as a result of exposure to chemicals in the environment.

Exposure Pathway: The mechanism by which a chemical comes into contact with a living organism.

Feasibility Study (FS): An analysis of proposed remedial alternatives to evaluate their effectiveness in reduction of risk to human health and the environment.

Human Health Risk Assessment (HHRA): An estimate of the potential harmful effects humans may experience as a result of exposure to chemicals.

Installation Restoration Program (IRP): The Department of Defense's comprehensive program to investigate and clean up environmental contamination at military facilities in full compliance with CERCLA.

Institutional Controls (IC): Non-engineering mechanisms established to limit human exposure to contaminated waste, soil, sediment, or groundwater.

No Observed Adverse Effect Level (NOAEL)

Record of Decision (ROD): A legal document that explains the selected cleanup method to be used at a site. This document is signed by the Navy and regulatory agencies and is a binding agreement regarding how and when a site cleanup is conducted.

Regional Water Quality Control Board (RWQCB): The California water quality authority.

Remedial Investigation (RI): One of the two major studies that must be completed before a decision can be made about how to clean up a site (the FS is the second study). The RI is designed to determine the nature and extent of the contamination at the site.

Response Action: A general term used to describe technologies or actions implemented to contain, collect, or treat hazardous wastes to protect human health and the environment.

Restoration Advisory Board (RAB): A vehicle for community involvement. The RAB has members of the community and co-chaired by a community member and the Navy.

Polycyclic Aromatic Hydrocarbon (PAH): A specific class or group of semivolatile organic compounds; some are suspected as cancer-causing compounds. PAHs are commonly associated with non-combusted fuels and waste oil. (Note: polynuclear is a term that means multi-ringed hydrocarbon.)

U.S. EPA: United States Environmental Protection Agency