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# FACT SHEET

## SOIL CLEANUP AT THE OLD FIRE FIGHTING TRAINING AREA

### NAVSTA NEWPORT Installation Restoration Program Newport, Rhode Island June 2003

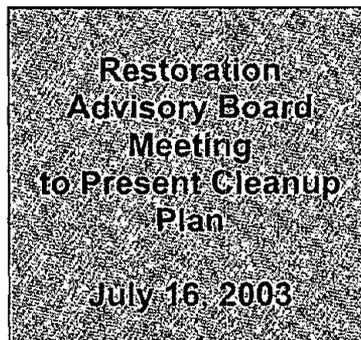
#### *The Cleanup Proposal...*

*After careful study of the Old Fire Fighting Training Area, the Navy proposes to conduct a removal action to remove contaminated soil and continue to monitor groundwater and sediment under the Navy's lead agency authority until a permanent solution can be reached (Figure 1 on Page 2)*

- **Excavate** contaminated soil and debris.
- **Dispose** contaminated soil and rubble in an approved off-site facility.
- **Restore** The excavated areas for unrestricted use of the property.
- **Monitor** The groundwater and sediment at the site.
- **Restrict** Use of groundwater and access to shoreline areas

#### How would the cleanup affect the local area?

The Navy invites you to attend the July meeting of the Restoration Advisory Board on July 16, 2003 to learn more about the proposed cleanup plan and how it compares with other cleanup options for the site. The Navy will respond to your questions and concerns about the proposed cleanup and how it may affect you. For further information on the Restoration Advisory Board meeting, call Kathleen Marley at 401-841-2857.



#### What do you think?

The Navy is accepting public comment on this removal action from July 16 to August 15, 2003. You don't have to be a technical expert to comment – if you have a concern or preference, the Navy wants to hear it before making a final decision.

To comment formally:

**Offer oral comments** during the Restoration Advisory Board Meeting

**Provide written comments** by fax, or by mail postmarked no later than August 15, 2003 to:

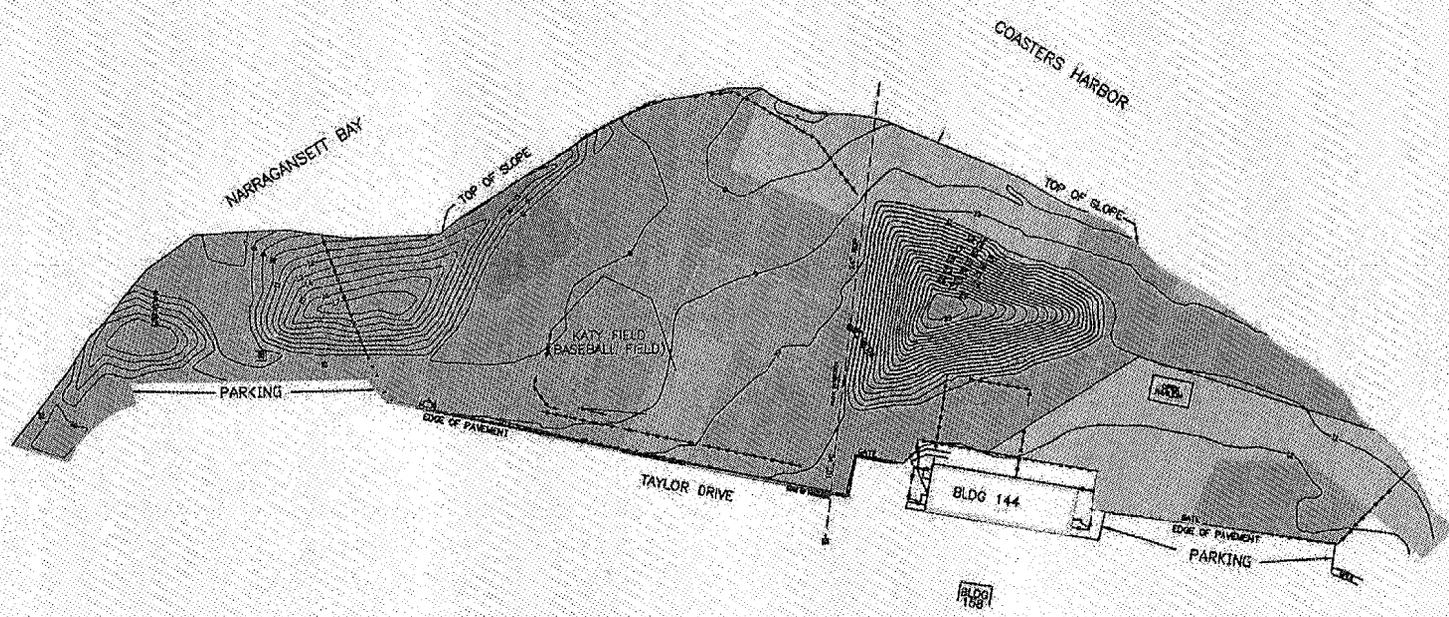
Kathleen Marley  
NAVSTA Newport IR Site Manager  
PWD, Building 1  
1 Simonpietri Drive  
Newport, RI 02841  
Fax: (401) 841-2857

**E-mail comments** by August 15, 2003 to:  
marleyk@nsnpt.navy.mil

*In accordance with the Comprehensive Environmental Response, Compensation and Liability Act, (Section 117) the law that established the Superfund program, this document summarizes the Navy's cleanup proposal. For detailed information on the options evaluated for use at the site, see the Old Fire Fighting Training Area Draft Final Feasibility Study (September 2002) available for review at the information repositories at the Portsmouth, Middletown, and Newport Public Libraries.*

LEGEND

-  EXCAVATE TO 10 FT. BELOW GROUND SURFACE
-  EXCAVATE TO 9 FT. BELOW GROUND SURFACE
-  EXCAVATE TO 8 FT. BELOW GROUND SURFACE
-  EXCAVATE TO 6 FT. BELOW GROUND SURFACE
-  EXCAVATE TO 4 FT. BELOW GROUND SURFACE
-  EXCAVATE TO 2 FT. BELOW GROUND SURFACE



APPROXIMATE SCALE  
0' 150'  
1 INCH = 150 FEET

FIGURE 1  
CONCEPTUAL SOIL EXCAVATION  
PLAN

# ***A Closer Look at the Navy's Proposal...***

## **1. Excavate contaminated soil and debris.**

Soil at the site contains remnant contaminants from use of fuel and from fire training operations. Polynuclear Aromatic Hydrocarbon (PAH) compounds, common in oil and produced by burning exist in the soil along with residual oil and fill consisting of brick, concrete and rubble. Some metals that exceed state criteria for residential property are also present in soils.

The approximate areas where soil excavation would occur are shown on Figure 1. Approximately 58,000 cubic yards of material (approximately 5 acres) will have to be excavated. The basic steps for this action are described below:

- Perform a pre-design investigation to confirm the extent of contaminated soil and debris.
- Remove the clean topsoil from the mounds and the ballfield area.
- Excavate the contaminated soil and debris using conventional earth-moving equipment.
- Transport the contaminated soil/debris offsite in trucks
- Dispose of this material in an approved off-site facility.
- Backfill the excavated areas with clean soils.
- Stabilize the shoreline from erosion with a new stone revetment wall.

### **What impacts would the cleanup have on the local community and the environment?**

- Restrict access to the shoreline area along the site for an undetermined period of time.
- Noise from construction activities and truck traffic transport of contaminated soil between the base gate and an off-site disposal facility during spring and summer months over a two-year period may cause some inconvenience by disrupting local traffic.

## **2. Monitor groundwater and sediment to determine contaminant concentrations and patterns.**

The groundwater beneath the site also contains some remnant contaminants from fire training operations and from close contact with contaminated soils. Benzene and PAH compounds, common in oil and some of which are produced by burning exist in the groundwater at the site.

The Navy proposes to perform monitoring and restrict use of the groundwater at the site. Monitoring will assure that removal of the contaminated soils results in a reduction of contaminants in the groundwater. Restricting use of groundwater will prevent exposures to any contaminated water that remains.

Marine sediment in Coasters Harbor near the site was found to also contain PAH compounds. However, forensic testing indicated that these PAHs are different from those found on site, and are likely to be present as a result of urban runoff provided by storm drains discharging to the area.

The Navy proposes to monitor the sediments at the site during and after this removal action to determine changing trends in contaminant concentrations. This trend data will be used to support an effective follow-on action for the sediments. The steps for monitoring are described below.

- Collect groundwater and sediment samples annually for five years
- Compare results to those collected before the soil removal.
- Determine if the removal of the soils has had a positive effect on the groundwater and sediment.
- Determine when contaminant concentrations may be reduced to below PRGs.
- Determine the need to conduct additional actions as a part of a final remedy, or continue monitoring.
- Restrict use of groundwater and access to sediment until a final remedy is selected.

## Why is Cleanup Needed?

A human health risk assessment was conducted to evaluate possible risks from exposure to soil, groundwater and sediment, and eating shellfish from the site. A marine ecological risk assessment was conducted to evaluate risks to marine life from the sediment.

Although there was measurable risk of health effects under certain conditions, the studies concluded that the most significant potential for risk was from exposure to soils from residential use of the site. Because the Navy would like unrestricted use of the property, it was determined that a removal action should be conducted to remove the soil that poses this risk.

Other theoretical risks of exposure to contaminants were estimated for ingestion of groundwater, recreational use of the shoreline sediment, and habitually eating shellfish from the site, but these provide much less of a risk of exposure because:

- Contact with ground water from the site is only likely by construction workers and scientists collecting samples. The groundwater is not available for water supply.
- Shellfish collection and access to the shoreline sediment for recreational activities will be restricted at the site.

## Why Does the Navy Recommend this Plan?

The Navy recommends a cleanup plan that uses excavation to address contaminated soil at the site, and that uses monitoring and existing restrictions to address the groundwater and sediment at the site. These approaches:

- Quickly meet risk reduction goals.
- Address the highest risk by removing contaminated soil from the environment and disposing it properly, thereby ensuring long-term protection of human health and the environment.
- Address low possibility of risk from groundwater by monitoring to measure improvement until a permanent remedy can be selected.
- Address low possibility of risk from sediment and shellfish by restricting access to the area below high tide, and monitoring after the soil removal, allowing a period of recovery without damage to the ecology of the harbor and adjacent bay.

## Site History

The Old Fire Fighting Training Area, used as a fire training school by the Navy from the 1940s to the early 1970's, is located on 5.5 acres along the north end of Coasters Harbor Island.

**1940s:** The site opened as a Navy fire training area. Fire training exercises were conducted, which involved using water to extinguish burning oil in a series of pits and small buildings meant to simulate ship compartments. Oil was carried into the soils of the training area and to the shoreline of Coasters Harbor Island.

**1972 to 1974:** The Fire training facility was closed. Most of the structures at the site were demolished, debris and some soils were pushed into three mounds at the site, the whole site was covered with topsoil and seeded.

**1976:** The site was dedicated and reopened as Katy Field (ball field and picnic area).

**1989:** NAVSTA Newport sites were added to EPA's National Priorities List.

**1992:** A Federal Facilities Agreement, signed by the Navy, EPA, and RIDEM, identified responsibilities for cleanup activities and a schedule by which to implement them.

**1996:** A citizen's advisory committee called a Restoration Advisory Board (RAB) was established to assist the Navy in addressing the IR program sites.

**1997 and 1998:** Studies determined that oil-related contaminants are present in subsurface soil up to 10 feet below ground surface. The Site was closed to recreational activities and fenced to restrict access during remaining investigations and cleanup.

**1998-2000:** Risk Assessments were conducted to determine risks to the off-shore environment from contaminants in the site soil and offshore sediment. Studies concluded that contaminants are present at concentrations that pose some increased risk to marine animals, the highest area of risk was found near one of the storm drain outfalls.

**2001:** Remedial Investigation was completed documenting that there would be increased risks to persons using the area for residential property and to persons habitually eating shellfish collected from Coasters Harbor.

**2002:** A feasibility study was developed to evaluate remedial action alternatives for the soils, groundwater and the marine sediments of Coasters Harbor. Forensic studies found that PAH contaminant types in sediment were more similar to those contaminants in the storm drains than those in the site soil.

## What are the Cleanup Objectives and Levels?

Investigations at the site concluded that there are contaminants in the soils, groundwater and sediment at the site that pose unacceptable risk to persons using the site for uncontrolled residential purposes.

The Navy identified three initial cleanup objectives to address the identified risks associated with the site:

- Prevent people from contact with soil containing contaminants that exceed acceptable levels developed for unrestricted use of the site.
- Address the soil in a manner that will prevent any degradation of groundwater at the site, and that will result in a decrease in groundwater contamination. In the meantime, prevent use of the groundwater as a drinking water source\*.
- Allow reuse of the site as an unrestricted area as soon as reasonably practicable. This includes no environmental controls on site development, other than those already imposed by general zoning and building restrictions.

Current restrictions preventing shellfish collection and use of the shoreline, are deemed adequate to provide additional protection until a permanent solution can be reached.

\*The Groundwater at the site is given a GB classification by the State. This Classification states that groundwater is unsuitable for consumption without treatment. This water is also unsuitable for general supply because it is brackish and saline, due to the proximity of the ocean. A city water supply provides water to the rest of Coasters Harbor Island, and this water supply is available for use if the site is redeveloped. However, at the request of state and federal officials, contaminant target levels for site groundwater were calculated using the assumption that the groundwater would be used as drinking water. Since there is no anticipated use of the groundwater for drinking water supply in the foreseeable future, meeting these drinking water levels is not a requirement for this removal action.

## Different Kinds of Cleanup

The Navy looks at numerous technical approaches to determine the best way to reduce the risks presented by a site. We then narrow the possibilities to approaches that would protect human health and the environment. Although reducing risks often involves combinations of highly technical processes, there are limited basic options for each media.

### 1. Take no action:

Leave the site as it is.

### 2. Isolate the Contaminants

Provide a barrier from contaminants to the people or animals that may be affected by it. Barriers can be as simple as fences (to keep people away) or as complex as underwater cover systems.

### 3. Remove Contaminants:

Remove contaminated material (soil, groundwater, etc.) and dispose of it or treat it elsewhere.

### 4. Treat contamination on site:

Use a chemical or physical process on the site to destroy or remove the contaminants. Treated material can be left on site. Contaminants captured by the treatment process are disposed in an approved disposal facility.

### 5. Monitor the contaminants:

Many remedies are combined with monitoring after completing the remedial action to assure that the action achieved the cleanup objectives. If contaminant levels increase again after the action, it is likely that another solution will have to be sought.

### 6. Interim Actions:

An interim action may be selected for one part of the site until another part of the site is restored. For instance, if the removal of soils is likely to result in a reduction in groundwater contamination, the interim action for groundwater may be to monitor that water until that reduction is confirmed.

The proposed removal action for this site incorporates #2, #3, and #5 as an interim action (#6).

# Cleanup Alternatives for the Old Fire Fighting Training Area

The Navy developed separate sets of options to deal with onshore soils, groundwater, and sediment. The Old Fire Fighting Training Area Draft Final Feasibility Study report (dated September 2002) was prepared to evaluate the options the Navy considered for cleanup. The options, referred to as "cleanup alternatives," are different combinations of ways to restrict access to, contain, move, or treat contamination to protect public health and the environment.

During the upcoming comment period, the Navy welcomes your comments on the early cleanup plan as well as the other approaches we evaluated. These alternatives are summarized below. Summaries of the alternative evaluations are presented on Tables 1, 2, and 3 (attached) Please consult the Old Fire Fighting Training Area Draft Final Feasibility Study (September 2002) available at the Newport, Portsmouth, and Middletown public libraries for more detailed information.

## Soil Alternatives

### Alternative 1: *No Action*

- Leave the site as it is.
- Conduct 5-year reviews of the site contamination and risks.

### Alternative 2: *Removal, Treatment, Backfill*

- Remove soils exceeding cleanup levels from the site in sections.
- Segregate soil from debris, stones, and fill materials.
- Treat soils with a low temperature thermal system to remove organic compounds.
- Treat soils using a soil washing processes to remove metals.
- Backfill excavated areas with cleaned soil.
- Dispose of debris and rubble offsite.
- Construct new retaining wall on shoreline.

### Alternative 3: *Removal and Disposal*

- Remove soils exceeding cleanup levels from the site in sections.
- Segregate soil from debris, stones and fill materials.
- Dispose of debris, rubble and soil at appropriate landfills.
- Backfill excavated areas with clean fill.
- Construct new retaining wall on shoreline.

The need to address soil at the site is based on the objective to reduce the contaminants present, and to have an unrestricted use of the property. Therefore, Alternative 3 is the Navy's preferred alternative for soil.

## Groundwater Alternatives

### Alternative 1: *No Action*

- Leave the site as it is.
- Conduct 5-year reviews of site contamination and risks.

### Alternative 2: *Limited Action*

- NAVSTA Newport will establish an Installation Restoration Site Use Restriction instruction to address any and all land use restrictions that need to be maintained for those IR sites that have been identified to have restrictions. This instruction will be incorporated with the other NAVSTA Newport instructions and policies.
- Monitor groundwater periodically to assure a contaminant reduction trend after the soil contaminant removal.
- Conduct 5-year reviews of groundwater contamination and associated risks.

### Alternative 3: *Active Remediation*

- Construct a groundwater treatment system
- Install extraction wells
- Pump groundwater from the ground, treat that water and dispose of it through the local wastewater treatment plant.
- Conduct annual monitoring to evaluate effectiveness of the system.
- Conduct 5-year reviews of groundwater contamination and associated risks.

Remediation of groundwater was evaluated in accordance with requests by RIDEM and EPA. The groundwater at the site could not and will not be used for water supply in the foreseeable future due to the salinity of the water and the availability of a city water supply. Therefore, Alternative 2 is the Navy's proposed alternative for groundwater under this removal action.

## Cleanup Alternatives (con't)

### Sediment Alternatives

#### Alternative 1: *No Action*

- Leave the site as it is.
- Conduct 5-year reviews of the site contamination and risks.

#### Alternative 2: *Limited Action*

- Restrict access to shoreline
- Monitor contaminant concentrations in sediments
- Conduct 5-year reviews of site contamination and risks

#### Alternative 3: *Excavate and Dispose Intertidal Sediment*

- Excavate intertidal sediments that exceed cleanup goals
- Dispose of sediments in an approved off-site facility
- Backfill the excavated area with clean fill.
- Monitor contaminant concentrations in subtidal sediment.
- Conduct 5-year reviews

#### Alternatives 4 and 5: *Excavate and Dispose Intertidal and Subtidal Sediment*

- Dredge intertidal and subtidal sediment that exceeds cleanup goals
  - Alt 4 - Avoid dredging in eelgrass beds.
  - Alt 5 - Remove all sediment exceeding cleanup goals, including that in eelgrass.
- Backfill the excavated area with clean fill.
- Monitor contaminant concentrations in subtidal sediment.
- Monitor site restoration (Alt. 4) or actively restore eelgrass disturbed by dredging (Alt. 5).

**Extensive studies did not provide a clear link between the contaminants at the site and the contaminants in the sediment nearby. Evidence shows that contaminants in sediment are more similar to those in storm drains and urban runoff.**

**Due to uncertainty of the source of contaminants in the sediment, Alternative 2 is proposed for sediment under this removal action. This alternative will allow more data to be collected without disruption of the ecological community.**

## The Criteria For Choosing a Cleanup

The Navy uses three criteria to balance the pros and cons of removal action alternatives. Evaluation of these criteria is required by CERCLA, the law that established the Superfund program. The Navy evaluated how well each of the cleanup alternatives developed for Old Fire Fighting Training Area meets these criteria (See tables attached) in the Draft Final Feasibility Study Report (September 2002).

1. **Effectiveness:** Will it protect human health and the environment? Does the action comply with laws and regulations that guide cleanup? Will it be effective in the long term (will any permanent solution selected in the future likely have to undo any parts of this action)? The Navy will not choose a plan that does not meet this basic criterion.
2. **Implementability:** Is the alternative technically feasible? Are the right goods and services and space at an approved disposal facility available?
3. **Cost:** What is the total cost of an alternative over time? The Navy must find a plan that gives necessary protection for a reasonable cost.

Once comments from the EPA, the state, the Restoration Advisory Board, and the community are received, the Navy will answer those comments and modify/finalize plans, if necessary, before proceeding with the removal action.

### What are the Next Steps?

The Navy expects to have reviewed all comments and signed an "Action Memorandum" describing the chosen removal action in the fall of 2003. The Action Memorandum and a summary of responses to public comments will then be made available to the public at the information repositories at the Portsmouth, Middletown, and Newport public libraries. The Navy will announce the decision through the local news media, the RAB, and a community mailing list.

### Is this the Final Action?

The proposed effort is an interim removal action that will likely be the major portion of the site cleanup. However, the monitoring information collected during the next five years will be used with data already collected to determine if any additional actions will be necessary to address the lower risks from contaminants in groundwater and sediment.

A final remedy will be selected later if it is needed to prevent any future groundwater use or to describe other restrictions. That final remedy will be proposed to the public through the Restoration Advisory Board and other outreach efforts.

## For More Detailed Information

This publication summarizes a number of reports and studies to help the public understand and comment on the proposal for the site. All of the technical and public information publications prepared to date for the site have been provided to the NAVSTA Newport information repositories:

Middletown Public Library  
W. Main Road  
Middletown, RI  
401-846-1573  
Hrs. M-F 10 – 8;  
F-S 10 - 5

Newport Public Library  
300 Spring Street  
Newport, RI  
401-847-8720  
Hrs. M 12:30 – 9  
T-Th 9:30 – 9  
F-Sa 9:30 – 6  
S 1 – 5

Portsmouth Public Library  
2658 E. Main Road  
Portsmouth, RI  
401-683-9457  
Hrs. M-Th 9 – 8  
F-S 9 – 5

**Additionally, information can be obtained by contacting the Navy, EPA, or RIDEM at:**

Franco LaGreca  
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10 Industrial Highway, Mail Stop 82  
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Remedial Project Manager  
Office of Waste Management  
R.I. Department of Environmental Management  
235 Promenade Street  
Providence, RI 02908-5767  
(401) 222-2297 ext. 7111

**The public is invited to attend the Restoration Advisory Board (RAB) meetings held on the third Wednesday of each month at 7:00 p.m. For information on RAB meetings, Contact Kathleen Marley, coordinator at the Naval Station Newport, 401-841-2857.**





**TABLE 1**  
**COMPARISON OF SOIL ALTERNATIVES**

Criteria for Selecting a Removal Action	Alt. 1 No Action	Alt. 2 Removal, Treatment, Backfill	Alt. 3** Removal and Disposal
1 - Protects human health and the environment	NO	YES	YES
2 - Implementable (can it be done?)	YES	YES	YES
3 - Cost	\$70,000	\$14 M	\$9 M
4 - Time to Achieve Cleanup	Not Achieved	Approx. 2 years	Approx. 2 years

YES = Meets criterion

NO = Does not meet criterion

\*\*This is the Navy's preferred remedy for the soil.

**TABLE 2**  
**COMPARISON OF GROUNDWATER ALTERNATIVES**

Criteria for Selecting a Removal Action	Alt. 1 No Action	Alt 2** Limited Action: Monitoring and Land Use Controls	Alt 3 Active Remediation: Pump and Treat Groundwater
1 - Protects human health and the environment	NO	YES	YES
2 - Implementable (can it be done?)	YES	YES	YES
3 - Cost	\$70,000	\$500,000	\$2 M
Time to complete	Not Achieved	Undetermined	Undetermined

YES = Meets criterion

NO = Does not meet criterion

\*\* - This is the Navy's preferred remedy for the groundwater.

**TABLE 3**

**COMPARISON OF SEDIMENT ALTERNATIVES**

<b>Criteria for Selecting a Removal Action</b>	<b>Alt. 1 No Action</b>	<b>Alt 2** Limited Action: Monitoring and Restrict Access</b>	<b>Alt 3 Excavate and Dispose Intertidal Sediment</b>	<b>Alt 4 Excavate and Dispose Intertidal and Subtidal Sediment Protect Eelgrass</b>	<b>Alt 5 Excavate and Dispose All Sediment</b>
1 - Protects human health and the environment	NO	Partially	Yes - Somewhat	Yes - Somewhat	Yes - Somewhat
2 - Implementable (can it be done?)	YES	YES	YES	YES	YES
3 - Cost	\$70,000	\$653,000*	\$3,605,000	\$3,922,000	\$4,095,000
Time to complete	Not Achieved	Undetermined*	2 years	Undetermined	2 years

YES = Meets criterion; NO = Does not meet criterion

YES - Somewhat – While contaminant reduction would occur; a clear link between site and sediment contaminants has not been established. Removal of sediments and disruption of the ecosystem would not be a long term solution if contaminant contributions from storm drains continue.

Partially – Protective of Human Health, but not of ecological risk

\* - Monitoring costs are provided for the anticipated 20 year period as described in the Draft Final Feasibility Study (September 2002). Trends identified by monitoring may require a longer or a shorter term for this action.

\*\* - This is the Navy's preferred remedy for the sediment.