



## 2002/Superfund Annual Report

A status report on the New England Superfund remedial, removal, brownfields, oil spill and emergency response programs.



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## WELCOME TO EPA NEW ENGLAND



The New England office of the U.S. Environmental Protection Agency is dedicated to protecting the public's health and the region's environment. This report summarizes the extensive progress and activities accomplished during fiscal year 2002 by the Office of Site Remediation and Restoration. This program oversees the long-term and short-term cleanup programs, the Underground Storage Tank and Brownfields programs, and our Homeland Security efforts. We thank you for your interest in the New England cleanup programs and look forward to another year of working with our Congressional delegation, states and tribes, the public and others with an interest in our work.

EPA New England's Office of Site Remediation and Restoration (OSRR) oversees the Superfund program, including the long-term cleanups of National Priorities List (NPL) sites, short-term removal actions and emergency responses. This office also administers the region's Brownfields program, helps parties prepare for potential oil spills and works to prevent environmental disasters. It oversees the regulation of underground storage tanks and administers corrective actions where facilities must clean contamination and create better systems for managing environmental threats.

In the past year, OSRR has also shifted its priorities to better secure our national environmental resources. In the wake of September 11, this agency joined other federal agencies in an all-out push to be prepared in the event of another terrorist attack. This led to the new homeland security plan, involving all of EPA in coordination with other governmental and community organizations.

In addition, this office joins the entire agency in a focused federal effort to make sure all New England residents receive their share of environmental benefits. The federal government recognizes the importance of environmental justice and seeks to provide equal protection for all of our communities, large and small, rich and poor. Because communities have not been treated equally in the past when it comes to protecting the environment, OSRR now considers environmental justice in all of its programs and decisions.

This report begins with a brief history of Superfund and a basic 'refresher course' on EPA's Superfund program. It continues with a section on financial investments made at toxic waste sites, including specific web addresses to find more comprehensive information for each site. A second report outlines the environmental success stories across New England in the Brownfields redevelopment program and the push to reuse once-toxic waste sites. There is also information on specific New England sites where EPA is doing short-term cleanups that leave neighborhoods safer until the properties are developed for a permanent new use.

At EPA, we are especially excited about the impacts our programs are having across the region in bringing many properties that once sat idle back into use, and look forward to continuing to work with our state and local partners and the congressional delegation to promote a cleaner, healthier, more productive environment.

Please visit EPA's Internet web pages to find a great deal of useful information as well as detailed descriptions of each of the 110 Superfund sites in New England. Bookmark the following web addresses: [www.epa.gov/ne/superfund](http://www.epa.gov/ne/superfund) and [www.epa.gov/ne/brownfields](http://www.epa.gov/ne/brownfields)

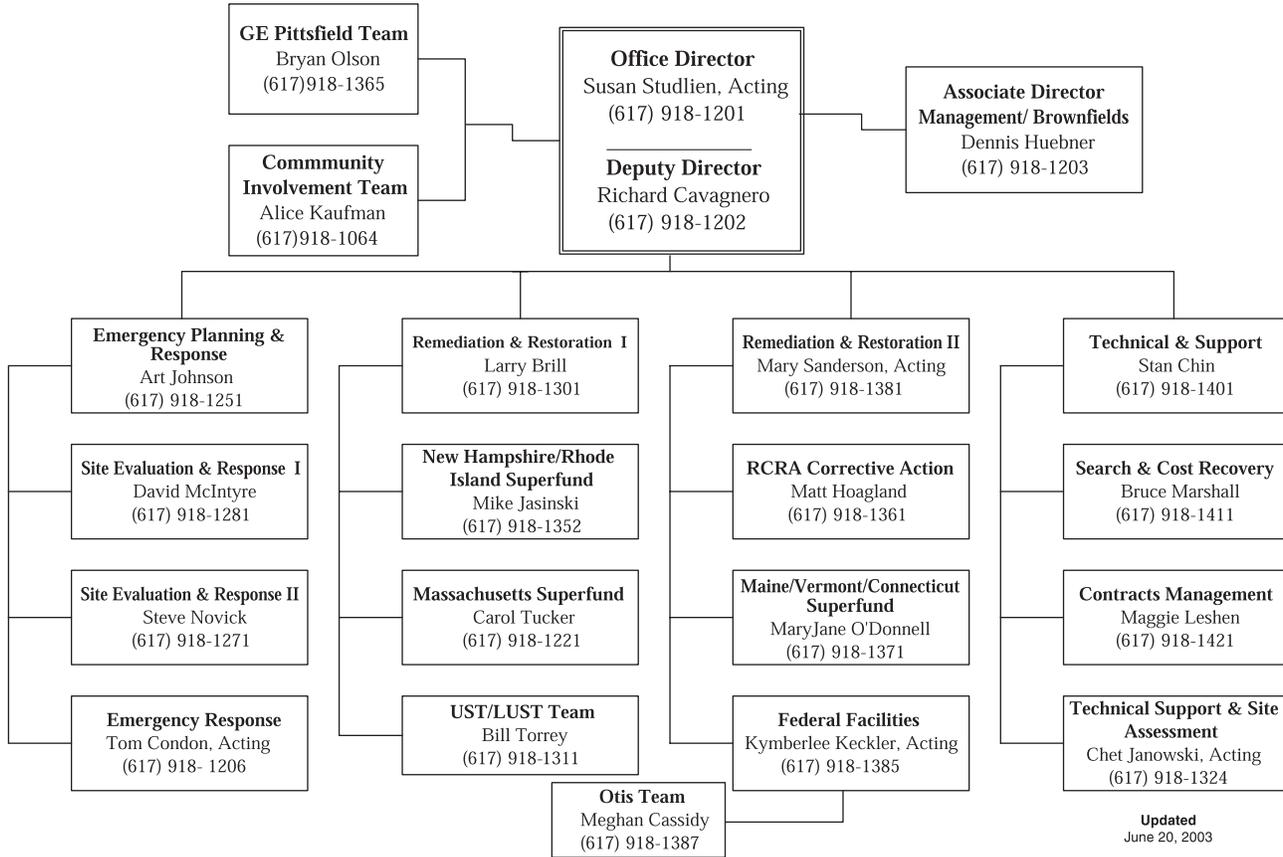
Thank you for your interest,

Robert W. Varney  
Regional Administrator

# OFFICE OF SITE REMEDIATION & RESTORATION

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WHO'S WHO



## WHO'S WHO

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**Following is a quick summary of EPA New England’s Office of Site Remediation and Restoration (OSRR) programs highlighted in this report.**

### **National Priorities List (Superfund) Program**

OSRR’s remedial branches oversee long-term cleanups at sites that are typically on EPA’s National Priorities List. Short-term cleanups can correct many hazardous waste problems and eliminate most threats to human health and the environment. Some sites, however, require lengthier and more complex cleanups. These may include large-scale soil remediation, restoring groundwater and taking measures to protect wetlands, estuaries, and other ecological resources. These sites are often caused by years of pollution and may take several years, even decades, to clean.

### **Emergency Planning and Response**

OSRR’s Emergency Planning and Response branch prepares for and conducts responses to discharges of oil and releases of hazardous substances. In addition to planning and preparing for regional emergency responses, getting ready for counter-terrorism activities, inspecting oil storage facilities, and cleaning up emergency oil and chemical spills, this branch oversees time-critical short-term cleanups in New England.

Short-term cleanups, also referred to as “removal actions,” address immediate threats to public health and the environment. Short-term cleanups may take anywhere from a few days to a few years, depending on the type and extent of contamination.

### **Brownfields Program**

Originally established as an EPA initiative in January 1995, the Brownfields program has evolved into an effort involving more than 15 federal partners. This collaborative effort, referred to as the Brownfields National Partnership, was created in June 1997 to promote beneficial reuse of contaminated sites. EPA’s Brownfields program consists of various initiatives designed to work with local, state and tribal partners to reuse brownfields in environmentally sound ways driven by the community. Key Brownfields programs include Site Assessment Demonstration Pilots, Targeted Brownfields Assessments, Cleanup Revolving Loan Funds, Job Training Grants, Showcase Communities and financial help to state brownfields programs, including Voluntary Cleanup Programs.

### EPA NEW ENGLAND'S HOMELAND SECURITY PLAN

On September 11, 2001, our country was put on alert: we must be ready to protect our resources in the event of an attack or other national emergency. As a result of this unexpected attack and the anthrax incidents that followed, EPA New England has developed a detailed security and response readiness plan that should leave the region less vulnerable in the event of an emergency. EPA is working with other government and community organizations to better protect our water, air and land resources and to respond to an emergency that threatens these resources. In its plan, the agency has outlined specific actions to address vulnerabilities and identified specific actions needed to reduce the vulnerability of our critical environmental infrastructure. EPA goals aimed at achieving better homeland security include:

**Identify and Address National Environmental Vulnerabilities:** EPA is working with state and interstate organizations as well as water utilities and wastewater treatment facilities to help them understand and reduce the vulnerability of public drinking water supply systems.

**Improve Procedures for Making Decision and Communicating:** EPA will use its Regional Incident Coordination Team (RICT) to clarify responsibilities for how to make decisions and communicate internally during significant emergency incidents. This team's Operations Manual establishes lines of authority and responsibility.

**Revise External Emergency Response:** EPA has been participating in terrorism and hazardous material response exercises throughout New England to ensure the agency's readiness to respond in the event of an incident. Planning and coordinating these exercises requires many state, local and federal agencies to coordinate and already have resulted in many revisions to existing emergency response plans and structures.

**Increase Resources:** EPA has committed significant resources over the last two years to make sure that we are better prepared than ever before to respond to an emergency of any kind. Five On-Scene Coordinators were hired, and EPA has provided extensive health and training, as well as preparedness training to all staff. In the area of drinking water, EPA has shifted resources to help water suppliers prevent and prepare for acts of terrorism.

**Identify and Address National Vulnerabilities; Preparedness:** EPA New England is working aggressively with state Emergency Response Commissions, Local Emergency Planning Committees and industry and community groups to ensure that they have effective preparedness strategies and the tools necessary to carry them out.

EPA is incorporating security concerns into its enforcement actions and is helping to educate industrial facilities, pipeline owners, transporters, utilities, and warehouse owners of chemicals throughout New England on how to make their operations more secure. Among other things, EPA New England is providing businesses with a new Industrial Security Awareness guide.

**Develop a Plan for Alerting The Public During National Emergencies:** EPA's existing procedures for informing the public quickly and accurately during an emergency are being tested and revised in the event of a catastrophic event.

**Invest in the Security of EPA Staff and Facilities:** EPA New England immediately tightened physical security in the aftermath of September 11, adding security guards and tightening visitor procedures. Other steps to strengthen our physical security will be made based on vulnerability assessments.

**Develop a Data Analysis and Information Management Infrastructure:** EPA has assessed its analytical capability in light of major terrorist attacks and is seeking to expand its resources making use of state and private labs. EPA, in close partnership with laboratory directors, is compiling an inventory of lab capabilities across New England. The RICT, an EPA multi-disciplinary response team, has defined operational procedures for coordinating all activities and defining how data will flow within EPA to other agencies and to the public.

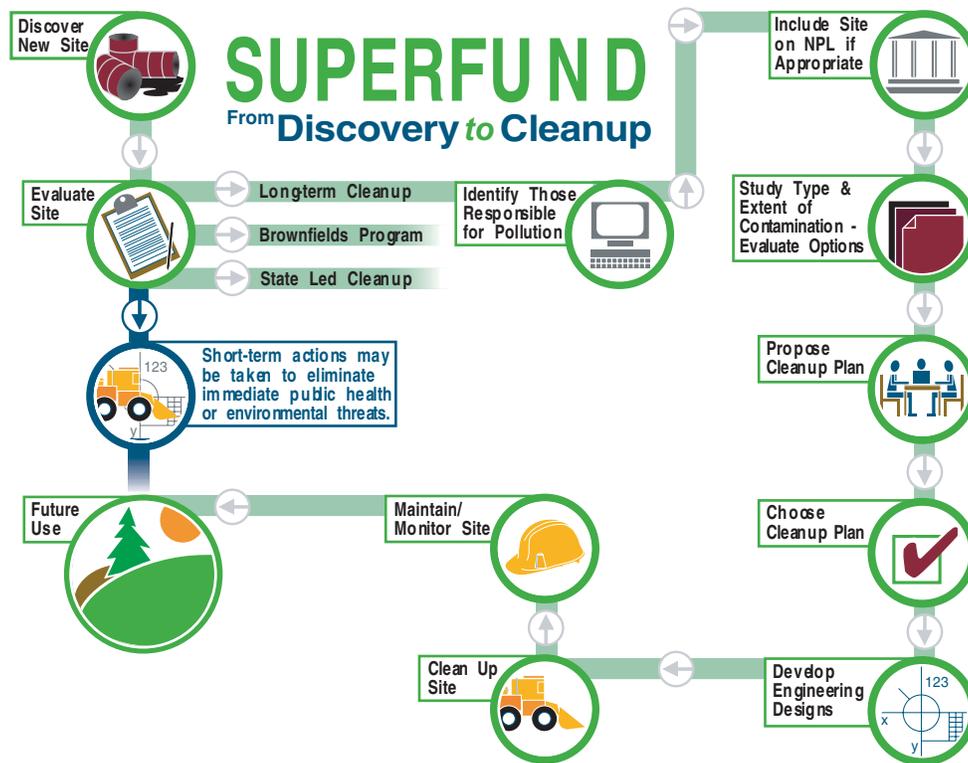
Together with state and local agencies, New England is advancing response capabilities, and ensuring the health and safety of all New Englanders.

## SUPERFUND: A PRIMER

In response to growing concerns at Love Canal in New York and other sites around the country, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Superfund law, on December 11, 1980. To implement this law, EPA created regulations establishing cleanup standards and procedures. These procedures were outlined in the National Contingency Plan (NCP), which dictates CERCLA response actions. The NCP includes procedures EPA and private parties must follow in selecting and completing emergency removals and long-term cleanups.

Several tools are available through the Superfund program to assess and clean up hazardous waste sites. The graphic below shows the cleanup process from discovery to cleanup. Cleaning a site may take many paths—through state sponsored cleanup programs, the Brownfields program, or a Superfund short-term or long-term cleanup action.

Today’s Superfund program is the result of ongoing reform and revitalization. EPA is streamlining the program and trying to make it as fair as possible, at the same time it improves the effectiveness and consistency of the cleanup and increases community participation and public/private partnerships, and encourages economic development.



### Discover Contamination (Site Discovery)

Anyone can report a suspected hazardous waste problem to the National Response Center which operates 24 hours a day, seven days a week, or to state and local authorities.

To Report an oil spill or other environmental emergency such as an oil or chemical spill, call the National Response Center at 1-800-424-8802.



## Evaluate the Site (Site Assessment)

The top priority in evaluating a hazardous waste site is to determine whether or not an emergency exists. When a hazardous waste site is reported, EPA inspects the site to determine what type of “action” or cleanup procedure, if any, is necessary. EPA reviews existing data, inspects the site and may interview nearby residents to find out the history and the effects of the site on the population and the environment.

EPA New England has performed assessments on a number of sites where no decision has yet been made about whether to list the site on the National Priorities List. These sites are referred to as Sites Awaiting a NPL Decision (SAND). SAND sites include sites that have been assessed by the Superfund program, are now being addressed under state program authorities, or are in various stages of assessment and cleanup by other federal or state agencies. For additional information, visit the EPA New England Superfund SAND Web pages at [www.epa.gov/ne/superfund/sand](http://www.epa.gov/ne/superfund/sand)

EPA tests the soil, water and air to determine what hazardous substances were left at the site and how serious the risks may be to human health and the environment. Individuals or companies responsible for the contamination at the site may do these assessments under close EPA supervision. Many of the sites that are studied do not need cleanup by the Superfund program. Some sites do not require any action, while others are referred to the state, other EPA programs such as the Brownfields program, or other agencies or individuals for cleanup. If the site qualifies for cleanup through the Superfund program, EPA then decides whether the site is a short-term cleanup or a long-term cleanup.

### Brownfields

Some hazardous waste sites, such as abandoned, idled or under-used industrial and commercial facilities, may be slightly contaminated and can be cleaned up fairly easily. These sites, where expansion or redevelopment is complicated by real or perceived environmental contamination, are commonly known as “brownfields.” More information about brownfields in New England can be found in the Brownfields section of this report and on the EPA New England Brownfields program web site at [www.epa.gov/ne/brownfields](http://www.epa.gov/ne/brownfields)

### Short-Term Cleanups

Short-term cleanups, also referred to as “removal actions,” address immediate threats to public health and the environment, and typically address less complex or less extensive contamination problems than those that require long-term cleanup. Short-term cleanups may take anywhere from a few days to a few years to complete, depending on the type and extent of contamination. EPA also determines if additional long-term action will be necessary.

Not all short-term cleanups are equally urgent. For example, situations involving fire or explosions or imminent, catastrophic contamination of a reservoir may require prompt attention, while certain situations involving abandoned hazardous waste drums or cleanup of abandoned industrial facilities may not.

**Steps in the short-term cleanup process include:**

1. **Investigate the contamination at the site.**
2. **Assess factors that affect the level of risk at the site** and determine the urgency of the situation, which is the primary factor used to determine which type of short-term cleanup to conduct. There are three different types of short-term cleanups:

### ***Classic Emergencies***

include those cleanups where the release of hazardous materials requires that on-site cleanup activities be initiated within minutes or hours of determining that a short-term cleanup is appropriate.

### ***Time-Critical Actions***

are those cleanups where, based on an evaluation of the site, EPA determines that on-site cleanup activities must be initiated within six months of determining that a short-term cleanup is appropriate. For time-critical actions, EPA investigates contamination and produces an "action memorandum" authorizing and outlining the cleanup process before beginning work.

### ***Non-Time-Critical Actions***

are those cleanups where, based on an evaluation of the site, EPA determines that six months or more is available before on-site cleanup activities must begin. Non-time-critical removal actions require the preparation of an "Engineering Evaluation/Cost Analysis" (EE/CA). An EE/CA includes a description of the contamination, the threat to human health and the environment that the contamination poses, the objectives of the cleanup, the requirements that need to be met, the alternatives evaluated for addressing the contamination, and a recommended cleanup plan.

3. **Conduct the cleanup and document its completion.**

For information on short-term cleanups in New England and EPA New England's Emergency Planning and Response programs, see the Removal section of this report.

## **Long-Term Cleanups**

Short-term cleanups can correct many hazardous waste problems and eliminate most threats to human health and the environment. Some sites, however, require lengthier cleanups. These may include restoring groundwater and taking measures to protect wetlands, estuaries and other ecological resources. These sites are often caused by years of pollution and may take several years, even decades, to clean. At any point during the long-term cleanup process, interim short-term cleanups may be done. Detailed information on long-term cleanups in New England is contained in the NPL section of this report.

**Following is an explanation of the steps in the long-term cleanup process:**

1. **Identify those Responsible for Pollution (begin enforcement process)**

Throughout the cleanup process, EPA works to identify companies or individuals who may have caused or contributed to the pollution at the site. These companies and individuals are known as Potentially Responsible Parties (PRPs). After completing a search to identify PRPs, EPA's first choice is for the PRPs to pay for and/or conduct the necessary studies and cleanup activities under the supervision of EPA. If the PRPs are unable or unwilling to do the work, EPA will fund the cleanup through the Superfund. EPA and the U.S. Department of Justice will then take appropriate enforcement actions to recover all the government's costs for cleaning up the site.





## 2. If Appropriate, Include the Site on the National Priorities List

In most cases, sites that are candidates for long-term cleanup become listed on the National Priorities List (NPL). To evaluate the dangers posed by hazardous waste sites, EPA has developed a scoring system called the Hazard Ranking System (HRS). EPA uses the information collected during the assessment phase of the process to score sites according to the danger they may pose to public health and the environment. Sites that score high enough on the Hazard Ranking System are eligible for the National Priorities List. A site may also be proposed for the National Priorities List if the Agency for Toxic Substances and Disease Registry (ATSDR) finds that it poses a significant risk to public health or if the site is chosen as a state's top priority site. The proposal is published in the Federal Register and the public has an opportunity to comment in writing on whether the site should be included on the National Priorities List. Brief summaries for all New England NPL sites are contained in the NPL section of this report. Detailed fact sheets and other site information are also available on the Internet, at [www.epa.gov/ne/superfund/sites](http://www.epa.gov/ne/superfund/sites).



## 3. Study Type and Extent of Contamination and Evaluate Cleanup Options (Remedial Investigation/Feasibility Study)

A detailed study of the site is done to identify the cause and extent of contamination at the site, the possible threats to the environment and the people nearby, and options for cleaning up the site.



## 4. Propose a Cleanup Plan and Respond to Public Comments

EPA uses information from the EPA Remedial Investigation/Feasibility Study (RI/FS) to develop and present a proposed plan for long-term cleanup to citizens, and to local and state officials for comment. The proposed plan describes the various cleanup options under consideration and identifies the option EPA prefers. The community has at least 30 days to comment on the proposed plan. EPA may also invite community members to a public meeting to express their views and discuss the plan with EPA (and sometimes state) officials.



## 5. Choose Cleanup Plan (Record of Decision)

Once the public's concerns are addressed, EPA publishes a Record of Decision, which describes how the agency plans to clean up the site. EPA will also notify the community of the cleanup decision.



## 6. Develop Engineering Designs for Cleanup (Remedial Design)

Next, the cleanup method is designed to address the unique conditions at the site. This is called the Remedial Design. The design and actual cleanup is conducted by EPA, the state, or by the parties responsible for the contamination at the site. EPA closely oversees this design phase of the cleanup at the site. When the design is completed, EPA informs the community of the design and the next steps that will take place at the site.



## 7. Cleanup the Site (Remedial Action)

The cleanup process itself involves the removal, treatment, and/or disposal of contaminants at a site, and then the restoration of the site to a condition that is not dangerous to people or the environment. This step may involve different cleanup methods, such as the construction of a plant to treat contaminated groundwater, or the excavation and treatment of contaminated soil.



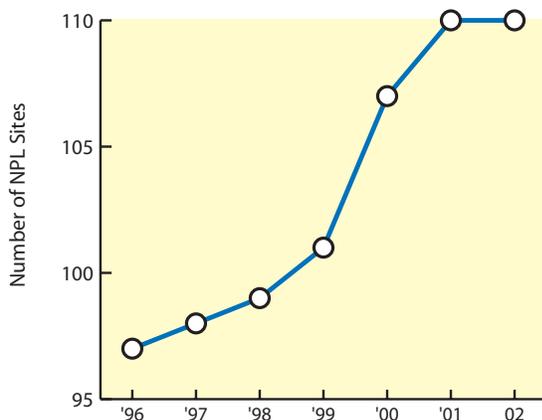
### **8. Maintain and Monitor the Site (Operations and Maintenance)**

EPA can put in place equipment and manpower necessary to clean up a site, but it may take a long time to return a site to the way it was before it was contaminated (as in the case of long-term treatment of contaminated groundwater). Some sites, due to the extent of contamination, may never return to the way they were prior to the pollution; however, EPA will make sure that the site will be safe for the people living around the site now and in the future. EPA regularly monitors sites to make sure they remain safe. If there is any indication that a problem has arisen, immediate action will be taken to make the site safe again. NPL sites that meet all federal cleanup standards are deleted from the National Priorities List.

## SUPERFUND LONG-TERM CLEANUP PROGRAM (NATIONAL PRIORITIES LIST)

Superfund distinguishes between short-term and long-term cleanup efforts. Long-term responses, also called “remedial actions,” involve complex and highly contaminated sites that often require several years to fully study the problem, determine and plan a remedy and clean up the hazardous waste. There are 97 sites on the final National Priorities List (NPL or Superfund) in New England. An additional three sites have been proposed to the list and ten sites have been deleted because all cleanup has been complete. During 2002, two New England sites were added to the NPL.

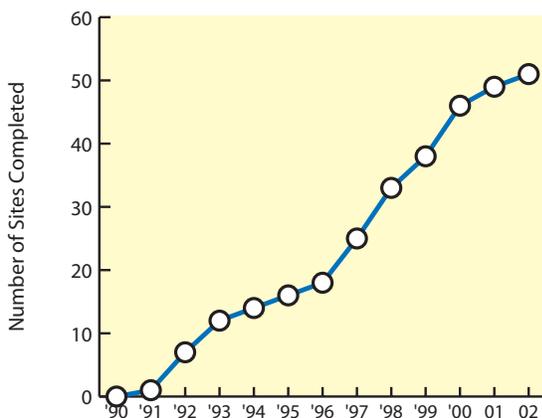
Cumulative Number of Sites Added to National Priorities List in New England by Year, 1996-2002



Source: EPA New England, January 1, 2003

As the Superfund program enters its third decade, the landscape of cleanup programs has changed dramatically. At one time, Superfund was the only program dealing with our nation’s abandoned hazardous waste sites. Today, the federal Brownfields program, state regulatory and voluntary cleanup programs all encourage and carry out site cleanups. EPA New England, working with the states, continues to evaluate sites to determine the best approach for cleanup and for adding sites to the NPL.

Cumulative Number of National Priorities List Sites cleaned up in New England by year, 1990-2002



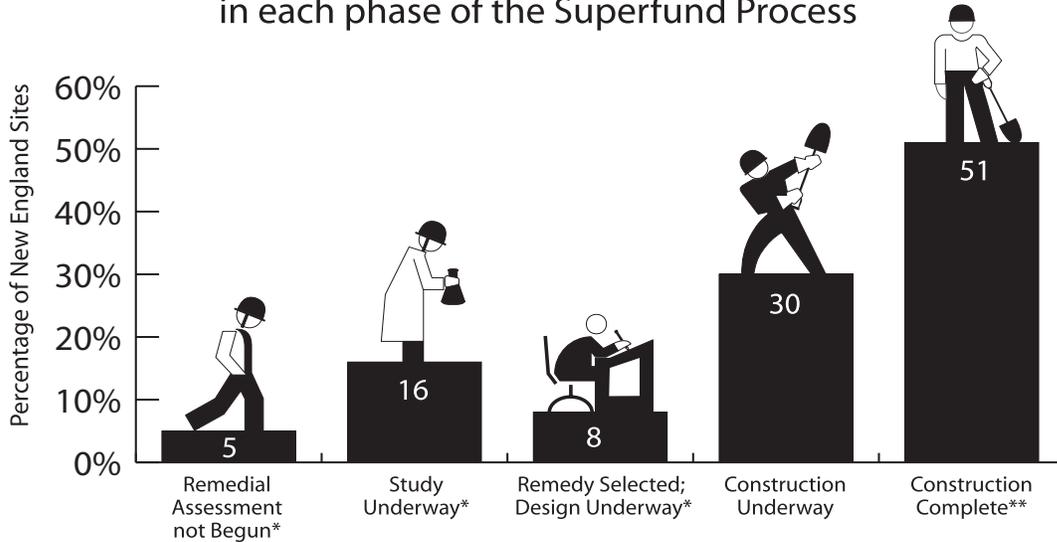
Source: EPA New England, January 1, 2003

## Program Highlights

### PROGRAM HIGHLIGHTS

At three-quarters of New England NPL sites, EPA has either completed construction of all cleanup measures or has construction underway. Examples of cleanup measures include construction of an impermeable cap, a wastewater treatment plant, or a groundwater pump and treat system. Nationwide, EPA has completed construction of cleanup solutions at 848 sites, 51 in New England.

### Number and Percentage of National Priorities List Sites in each phase of the Superfund Process



\* may include sites where early action has occurred

\*\* long-term monitoring, operation, and maintenance ongoing

Source: EPA New England, January 1, 2003

Our work is not done, however, when construction is done. At many sites, cleanup systems must be operated and maintained for the long-term, while conditions at the site must be monitored and reviewed periodically to make sure the remedies are still protecting the environment. The graphic on the next page shows the status of each project in New England.

	Remedial Assessment not Begun*	Study Underway*	Remedy Selected; Design Underway*	Construction Underway	Construction Complete**
CONNECTICUT	Broad Brook Mill <sup>^</sup>	Durham Meadow Nutmeg Valley Rd Precision Plating Scovill Landfill SRS		Linemaster Sw. N.London Sub Old Southington Raymark	Beacon Heights Cheshire GWater Gallups Quarry Kellogg-Deering Laurel Park Revere Textile Yaworski Lagoon Barkhamsted
MASSACHUSETTS	Haverhill Landfill Nuclear Metals Sutton Brook	Blackburn & Union GE-Housatonic <sup>^</sup> Hath.& Patterson Shpack Landfill S.Weymouth NAS	Atlas Tack Natick Army Lab Naval Weapons	Baird & McGuire Fort Devens Hanscom AFB Induriplex Iron Horse Park Army Matls Tech. New Bedford Nyanza Otis ANG Base Silresim WR Grace/Acton Wells G&H	Cannon Eng. Charles George LF Devens-Sudbury Ann. Groveland Wells Hocomonco Pond Norwood PCBs Plymouth Harbor PSC Resources Re-Solve, Inc. Rose Disposal Pit Salem Acres Sullivan's Ledge
MAINE	Callahan Mine		Eastland Woolen West Site/Hows Cor.	Portsmouth NSY	Brunswick NAS Eastern Surplus Loring AFB McKin Co. O'Connor Co. Pinette's Salvage Saco Municipal LF Saco Tannery Union Chemical Winthrop Landfill
NEW HAMPSHIRE		Beede Waste Oil Mohawk Tannery <sup>^</sup>	Dover Landfill	Fletcher's Paint N.H. Plating Ottati & Goss Savage Muni. Somersworth LF	Auburn Road LF Coakley Landfill Kearsarge Metallurg. Keefe Enviro. Mottolo Pig Farm Pease AFB South Muni. Well Sylvester Tibbetts Road Tinkham Garage Town Garage/Radio Beac.
RHODE ISLAND		Centredale Manor W.Kingston/URI	Rose Hill Landfill	Central Landfill Davis Liquid Davisville NCBC Newport NETA Peterson/Puritan Picillo Farm	Davis GSR Landfill Landfill & Res.Rec. Stamina Mills Western Sand & Gravel
VERMONT		Elizabeth Mine Ely Copper Mine	Pownal Tannery	Parker Landfill Pine Street Canal	Bennington Landfill BFI Landfill Burgess Bros. LF Darling Hill Dump Old Springfield LF Tansitor Electronics

\* may include sites where early actions (e.g., removal actions) have occurred or are underway

\*\* long-term monitoring, operation, and maintenance ongoing

<sup>^</sup> proposed NPL site

Note: Statistics represent most-advanced Operable Unit at each site, additional activities may be ongoing at these sites.

### Cumulative Federal Superfund Dollars Expended at National Priorities List Sites in New England, 1980-2002

CT: \$190.8 million  
MA: \$674.9 million  
ME: \$92.8 million  
NH: \$124.6 million  
RI: \$64.5 million  
VT: \$38.3 million  
**TOTAL : \$1.186 billion**

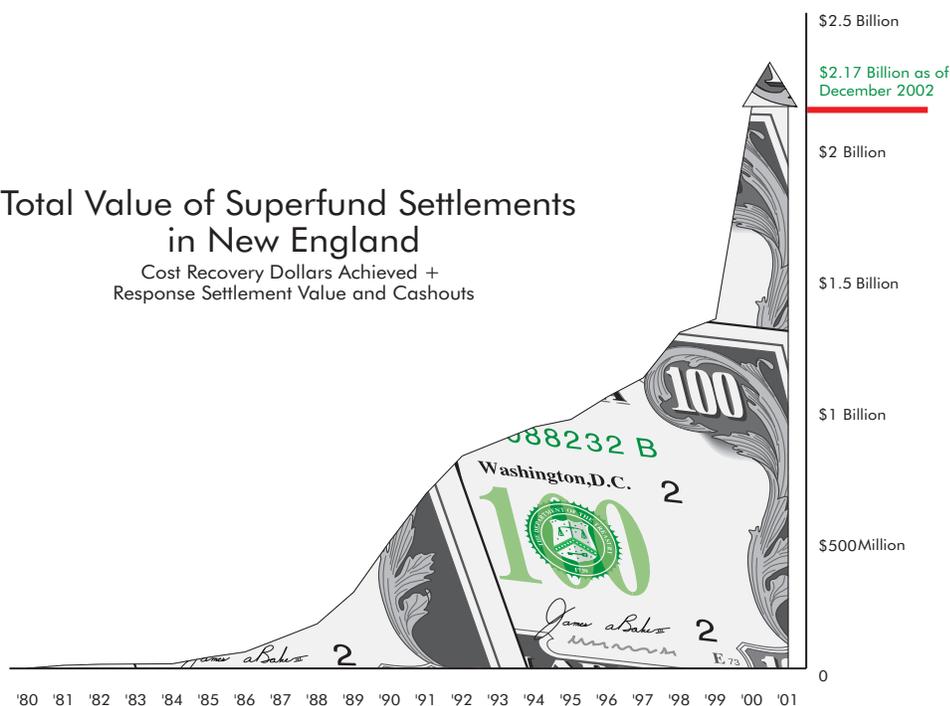
Source: EPA New England, January 1, 2003

EPA has spent nearly \$1.2 billion from the Superfund Trust Fund to study and clean sites on the National Priorities List sites in New England.

EPA New England, with the cooperation of the U.S. Department of Justice, continues to ensure that companies responsible for contamination at sites pay their fair share of cleanup costs. In 2002, parties responsible for cleanups in New England, (via direct payments to the Superfund Trust Fund or via funding of studies and cleanup work, committed more than \$22 million), bringing the overall total to more than \$2.17 billion since the start of the Superfund program.

### Total Value of Superfund Settlements in New England

Cost Recovery Dollars Achieved +  
Response Settlement Value and Cashouts



Source: EPA New England, January 1, 2003

While completing construction of cleanup remedies and deleting sites from the NPL symbolize the culmination of productive partnerships and hard work, true success comes when sites are cleaned well enough to allow for redevelopment. EPA New England, through the Superfund Redevelopment Initiative, is working with state and local governments to examine and rewrite land-use plans for National Priorities List sites and is designing remedies that encourage reuse.

The following pages outline specific information on the status and progress at NPL sites.

## National Priority List

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### RHODE ISLAND

NPL

#### Following are a few “Fast Facts” about EPA National Priorities List sites in Rhode Island:

- **77%** of Rhode Island Superfund sites (proposed, final, and deleted) on the National Priorities List - **10** of **13** sites - have undergone or are undergoing cleanup construction.
- **Four** sites have all cleanup construction completed, **six** sites have cleanup construction underway.
- **One** Rhode Island site has been deleted from the NPL, Davis (GSR) Landfill in Glocester.
- The Superfund Program has spent **\$67.6** million on National Priorities List sites in Rhode Island.

EPA has helped promote economic development by removing **135** Rhode Island sites from the CERCLIS list of waste sites, including **four** in 2002.

Source: EPA New England, January 1, 2003

## STATUS OF NEW ENGLAND NATIONAL PRIORITIES LIST SITES RHODE ISLAND

### Burrillville

#### Western Sand and Gravel

for more information on this project, see: [www.epa.gov/ne/superfund/sites/wsg](http://www.epa.gov/ne/superfund/sites/wsg)

**NPL Status:** Listed in 1983  
**Cleanup Status:** All Construction Completed in 1993  
**Superfund \$\$ Spent:** \$3.4 million

### Coventry

#### Picillo Farm

for more information on this project, see:  
[www.epa.gov/ne/superfund/sites/picillo](http://www.epa.gov/ne/superfund/sites/picillo)

**NPL Status:** Listed in 1983  
**Cleanup Status:**  
On-Site Areas: Construction Complete  
Off-Site Areas: Construction Underway  
**Superfund \$\$ Spent:** \$8.1 million

### Cumberland and Lincoln

#### Peterson/Puritan

for more information on this project, see: [www.epa.gov/ne/superfund/sites/peterson](http://www.epa.gov/ne/superfund/sites/peterson)

**NPL Status:** Listed in 1983  
**Cleanup Status:**  
Primary Source Area: Construction Complete  
JM Mills Landfill: Study Underway  
**Superfund \$\$ Spent:** 5.5 million

### Johnston

#### Central Landfill

for more information on this project, see:  
[www.epa.gov/ne/superfund/sites/central](http://www.epa.gov/ne/superfund/sites/central)

**NPL Status:** Listed in 1986  
**Cleanup Status:** Main Site: Construction Underway  
Off-Site Investigations: Complete  
**Superfund \$\$ Spent:** \$2.9 million

## National Priority List

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### RHODE ISLAND

#### Newport, Middletown, Portsmouth, and Jamestown Newport Naval Education/Training Center

for more information on this project, see: [www.epa.gov/ne/superfund/sites/netc](http://www.epa.gov/ne/superfund/sites/netc)

NPL Status: Listed in 1989  
Cleanup Status: Study and Cleanup Underway  
Superfund \$\$ Spent: \$1.9 million

#### North Kingstown Davisville Naval Construction Battalion Center

for more information on this project, see: [www.epa.gov/ne/superfund/sites/ncbc](http://www.epa.gov/ne/superfund/sites/ncbc)

NPL Status: Listed in 1989  
Cleanup Status: Study, Design, and Construction Underway  
Superfund \$\$ Spent: \$2.7 million

#### North Providence Centredale Manor Restoration Project

for more information on this project, see:  
[www.epa.gov/ne/superfund/sites/centredale](http://www.epa.gov/ne/superfund/sites/centredale)

NPL Status: Listed in 2000  
Cleanup Status: Study Underway; Removal Activities  
Superfund \$\$ Spent: \$9.5 million

#### North Smithfield Landfill and Resource Recovery, Inc.

for more information on this project, see: [www.epa.gov/ne/superfund/sites/l&rr](http://www.epa.gov/ne/superfund/sites/l&rr)

NPL Status: Listed in 1983  
Cleanup Status: All Construction Completed in 1997  
Superfund \$\$ Spent: \$2.9 million

#### Stamina Mills

for more information on this project, see: [www.epa.gov/ne/superfund/sites/stamina](http://www.epa.gov/ne/superfund/sites/stamina)

NPL Status: Listed in 1983  
Cleanup Status: All Construction Completed in 2000  
Superfund \$\$ Spent: \$3.2 million

## Smithfield

### Davis Liquid Waste

for more information on this project, see:  
[www.epa.gov/ne/superfund/sites/davisliquid](http://www.epa.gov/ne/superfund/sites/davisliquid)

NPL Status: Listed in 1983  
Cleanup Status:  
Waterline: Construction Complete  
Soil Treatment: Construction Complete  
Groundwater: Remedy Selected; Design Underway  
Superfund \$\$ Spent: \$21.7 million

## South Kingston

### Rose Hill Regional Landfill

for more information on this project, see:  
[www.epa.gov/ne/superfund/sites/rosehill](http://www.epa.gov/ne/superfund/sites/rosehill)

NPL Status: Listed in 1989  
Cleanup Status: Remedy Selected; Design Underway  
Superfund \$\$ Spent: \$5.6 million

## West Kingston Town Dump/URI

for more information on this project, see:  
[www.epa.gov/ne/superfund/sites/wkingston](http://www.epa.gov/ne/superfund/sites/wkingston)

NPL Status: Listed in 1992  
Cleanup Status: Study Underway  
Superfund \$\$ Spent: \$258,000

### RHODE ISLAND

#### RHODE ISLAND WATCH LIST

Sites included on the "Watch List" are those that both the state and EPA Site Assessment programs agree merit increased state-federal coordination and oversight. These sites are a small subset of the several thousand "active" sites included in the EPA New England and New England state inventories of known and suspected hazardous waste disposal sites. Criteria for including sites on the Watch List is loosely defined. In general, the Watch List includes sites that warrant special monitoring because they are strong NPL candidates, are the subject of considerable public interest, are particularly large and/or complex, require significant agency or state resource expenditures, or are state-lead sites that may be referred to EPA in the future. Watch List sites may be, but are not necessarily, listed in the federal CERCLIS inventory. Sites may be added or dropped if their status changes.

The purpose of the Watch List is to facilitate rapid information exchange between the states and EPA regarding the current status of these high profile sites, and to ensure agencies are kept abreast of key site issues. Agencies have agreed to share site information and to revise the status of sites as needed. At a minimum, however, the entire list will be reviewed and revised as appropriate every six months.

#### SCITUATE

##### DANIELSON PIKE GROUNDWATER

The Danielson Pike Groundwater site, discovered in 1988, consists of a TCE plume located along Danielson Pike in Scituate. In 1998, 26 private drinking water supply wells were sampled for VOCs by RI DEM. Thirteen of these wells, both overburden and bedrock, had no detectable TCE above the detection limit of 0.5 ppb. Two bedrock wells sampled indicated TCE at concentrations lower than EPA's drinking water standard of 5 ppb. TCE was detected in eleven of the deep bedrock wells at concentrations ranging from 12 ppb to 380 ppb. A 1998 source investigation at the Chase Paint/Riccardi Nursing Home property found no contamination following soil, sediment, or source sampling, and groundwater. The source of the TCE contamination has not been determined. The town of Scituate Water Study Committee explored the feasibility of establishing a water supply district, extending an existing public water supply from neighboring towns and/or constructing a community water supply. Although none of these ideas were found feasible the group recommended that residents in that neighborhood form their own water district. The proposed Chopmist Water District group has been discussing the feasibility of its operation. In the meantime, EPA will study the area to identify the source of the groundwater contamination.

#### SCITUATE

##### R&R JEWELRY

##### RID063890727

The R&R property, which consists of two parcels, was utilized by Chopmist Hill & Die, a local machine shop, from 1940 to 1972. In 1986, the owner of R&R alleged that an employee was disposing of paint waste, thinners, and acetone in an on-site dump area. During this time, carbon tetrachloride and trichloroethylene was widely used in degreasing/drying operations on-site. RI DEM personnel noted that the ground in the dump area was stained with several colors of paint and several layers of paint material to a depth of one foot.

In 1986 and 1987, RI DEM and RI DOH conducted sampling of 41 area private drinking water wells, including the R&R Jewelry well. Analysis of the samples from the R&R Jewelry well revealed the presence of carbon tetrachloride, trichloroethylene, 1,2-dichloroethane, and chloroform. Additional sampling from a dug hole at the dumping area revealed the following constituents: acetone; trichloroethylene; m-xylene; o-xylene; benzene; 1,4-dichlorobenzene; bis (2ethylhexyl)phthalate and di-n-butylphthalate. The agencies returned to sample residential private wells near R&R and detected one private well with carbon tetrachloride at concentrations ranging from 5 to 27 ppb (MCL = 5 ppb). This residence is receiving bottled water from RI DEM.

EPA completed an Expanded Site Inspection (ESI) of the R&R property in July 2000, which included source investigation, plume identification, extent of influence, and characterization studies. EPA has since removed the paint waste area and lead contaminated soil. The property has been re-zoned residential and both of the parcels sold for single family house construction. A bedrock well was installed on one parcel and hydrofractured to increase yield. That well was sampled in October 2002 and revealed trace levels of three chlorinated compounds. EPA has initiated a Site Reassessment which will be conducted in 2003.

## COVENTRY

### **COVENTRY MUNICIPAL LANDFILL      RID 980734164**

The landfill is located on Arnold Road in Coventry, Rhode Island, and operated between approximately 1954 and 1975. RI DEM has documentation stating that hazardous wastes, including caustic acids, acylic acids, methyl ethyl ketone, toluene, ethylene glycol, sodium nitrate, paints, and trichloroethylene were disposed of openly and in 55-gallon drums in the landfill. A barrel reclamation company and a chemical company are both known to have dumped at the Coventry Municipal Landfill. Several 55-gallon drums became exposed during the early 1980s, and it is believed that hundreds of other drums still exist there. RI DEM personnel conducted an evaluation to determine the existence of any private well use in the area and verified that all surrounding residents utilize public water.

The RI DEM Landfill Closure Program has assisted the town of Coventry and one participating potentially responsible party (PRP) in identifying other PRPs and forming a PRP group. In 2003, Letters of Responsibility will be sent to 20 PRPs inviting them to a meeting to solicit their cooperation. The goal is for the town and PRPs to conduct a landfill site assessment and any necessary remedial actions.

## PROVIDENCE

### **LANCASHIRE STREET DISPOSAL AREA RID987493244**

The Lancashire Street Disposal Site is located off Douglas Avenue in Providence. The site was originally a natural topographic depression that was filled in with solid waste starting in the 1950s. It is believed that PCB-contaminated auto fluff was used as surficial fill at Lancashire Street in the mid-1980s, prior to the construction of 17 residential housing units.

1988 RI DEM soil sampling results found PCBs on three vacant lots at a maximum level of 40ppm. RI DEM, after receiving these results, placed polyethylene plastic and clean fill over the exposed soil on the undeveloped lots. At that time, RI DEM

### RHODE ISLAND

sent letters to all property owners informing them of the results of the sampling activities with recommendations on how to avoid PCB contact.

From 1988 to 1995 RI DEM conducted soil-sampling investigations throughout the neighborhood to better assess the potential risk to residents and determined that the highest levels of PCBs detected was 40 ppm. In 1996, under the Rhode Island Remediation Regulations, cleanup standards for PCBs were established, based upon existing federal regulations, of 10 ppm for direct exposure to soil. Lead contamination was also detected at levels as high as 961 ppm. The cleanup standards for direct exposure to soils for lead in residential areas is 150 ppm.

EPA and RI DEM completed an Expanded Site Inspection at Lancashire Street in August 2001 and determined that PCBs, lead and SVOCs are present throughout the neighborhood, including levels of lead and SVOCs above the Rhode Island Residential Direct Exposure Criteria. RIDEM has scheduled a meeting with the EPA to determine if a cleanup is warranted.

#### **SMITHFIELD**

#### **SMITHFIELD CHEMICAL INDUSTRIAL DUMP RID981063258**

Between 1936 and 1961, the site property was used for the manufacturing of lacquers using nitrocellulose, an extremely flammable and explosive material. An unlined open dump of waste materials including drums is on the site. The property is a known gathering place and walking path for local teenagers and is bounded by the athletic fields of Smithfield High School and Deerfield Park. In 1999 the Agency for Toxic Substance Disease Registry (ATSDR) issued a Public Health Assessment for the site to determine if there was any link between the site and increased rates of cancer in the area. The report concludes that there is No Apparent Public Health Hazard associated with the site and recommends restricting site access to prevent human contact with industrial debris. To date no fence has been constructed around the site.

A private well investigation was conducted in 2000 and it was determined that all residents in the area are connected to public water. RI DEM completed an Expanded Site Inspection (ESI) in November 2002, which focused on source identification and extent of soil contamination. The ESI report revealed releases of SVOCs in soil and sediment throughout the site. EPA and RIDEM are reviewing all data to determine whether a cleanup is warranted.

#### **JOHNSTON**

#### **M. EARL ADAMS, INC.**

#### **RID001204627**

The M. Earl Adams Co. manufactured screw machine parts since 1945. During the process, a waste mixture containing brass, aluminum, and steel cuttings mixed with oil and mineral spirits is generated. Between 3,000 to 5,000 pounds of this waste, stored in drums, is removed biweekly. Through a series of inspections from 1982 to 1987, RI DEM documented on-site waste disposal and handling violations. Waste was apparently being directly discharged via a pipe to an on-site lagoon.

Beginning in July 1988 and continuing until May 1993, RI DOH collected and analyzed residential well samples from 60 properties located within a one-mile radius of the M. Earl Adams property. EPA funded private wells monitoring in the

area downgradient from M. Earl Adams through a Multi-Site Cooperative Agreement (MSCA) grant to RI DEM's Site Monitoring program from 1997-2000. In 1999 RI DEM private well monitoring indicated VOC levels in nine homes above maximum contaminant levels (MCLs), two of which were greater than ten times the MCLs, indicating an imminent threat to human health. Private well monitoring also revealed five homes with VOC levels below MCLs.

In late 1999 EPA connected three households with the highest levels of VOCs to existing public water supply lines, and extended public water supply lines in the area. By late 2000, a total of 15 residents in Johnston and Scituate were connected to public water.

EPA completed an Expanded Site Inspection at M. Earl Adams in July 2001 that focused on source identification. Private well monitoring is no longer being conducted around the site. RIDEM has determined that, due to the fact that no monitoring is taking place, additional action needs to be taken to remediate the source area and ensure the safety of downgradient receptors and the nearby public water supply. The PRP does not have the finances to conduct further investigation and remediation, therefore, the potential for NPL listing remains.

## **FOSTER**

### **FOSTER NIKE CONTROL AREA RID987492485**

The Foster Nike Control Area was operated by the U.S. Army from October 1955 until July 1965 as a Nike Radar Site. Soon thereafter, ownership of the site was transferred to the town of Foster. In 1990, RI DOH sampled and confirmed TCE contamination in the on-site supply wells and one downgradient residential receptor. Sampling conducted in late 2001 by the U.S. Army Corps of Engineers confirmed contamination above MCLs in the off-site residential well, as well as two other residential wells which were recently installed.

The site is currently a state-lead site, having been added to the List of Covered Sites under the 1997 Superfund Memorandum of Agreement (SMOA) in October of 1998. It is also covered under the Defense Site Memorandum of Agreement between the state and Department of Defense, and is scheduled for further investigation by the Army Corps of Engineers, who has installed carbon filtration units on the three adjacent residences. However, the site has been removed from the priority list by the Army Corps of Engineers since the residential filter systems have been installed. The town of Foster has, in the past, been interested in developing the property for a beneficial re-use in the form of ball fields, a senior center, and animal shelter.

### **FORMER NORTH SMITHFIELD NIKE CONTROL SITE**

The Rhode Island Air National Guard currently owns and operates the former North Smithfield Nike Control Site (Nike Site) which has been listed on CERCLIS since 1985. In the mid-1990s the Air Guard conducted a surficial investigation of the site in an attempt to determine if historical releases had occurred at the site. The investigation did not reveal any data to substantiate evidence of a release; however, the on-site drinking water supply wells were contaminated with levels of TCE above MCLs. Based on the fact that no source area for a release could be identified, the Air Guard did not initiate additional investigations. In 2000, as a

### RHODE ISLAND

result of the private well sampling conducted by RIDEM, 22 households were identified with TCE present in their drinking water supplies, four of them above the drinking water standard of 5 ppb. RIDEM requested that the Air Guard initiate a subsurface/bedrock investigation to determine if the Nike Site is the source of the contamination. The Air Guard has complied by submitting a bedrock investigation work plan and has established a Restoration Advisory Board (RAB) which meets every three months. Phase I of field work and private well sampling was completed in 2002. Phase II and III of field work is expected to be completed during the first quarter 2003. The Final Investigation Report is expected to be completed in 2003.

### NORTH SMITHFIELD

#### **NORTH SMITHFIELD AUTO SALVAGE**

The North Smithfield Auto Salvage (NSAS) site came to the attention of the RIDEM in 1998 when private wells in the area were found to be contaminated with Methyl Tertiary Butyl Ether (MTBE). A Letter of Responsibility was issued to the owner/operator, who passed away shortly thereafter. A new operator of the property has completed a site investigation and is in the process of signing into a Settlement Agreement with RIDEM. The site investigation report indicated that all on-site soils and groundwater are in compliance with RIDEM criteria. The site is not listed on CERCLIS. Private well sampling conducted in 2000 revealed seven homes with water supplies contaminated with MTBE, four of which had levels of MTBE above the Rhode Island Department of Health advisory limit of 40 ppb. There is no Federal drinking water standard for MTBE. A carbon filtration system was installed by RIDEM in one home with very high levels of MTBE. Recent sampling indicates that two homes still have MTBE levels above the Rhode Island Health Advisory Limit.

### SMITHFIELD

#### **HAROLD BACCAIRE PROPERTY RID981069511**

The Harold Baccaire Property, located at 125 Douglas Pike in Smithfield, was used for the disposal of building demolition materials. The site is approximately 12.63 acres and in 1984 RIDEM discovered leaking PCB laden transformers on the property, which were removed along with contaminated soil. Subsequent soil samples detected the presence of 8600 ppm PCB's and 1515 ppm trichlorobenzene. Development of the property in 1989 resulted in the grading, filling and asphalt paving of the entire site, including the PCB contaminated soil area.

Historical on-site monitoring well sampling and private well sampling in the area also revealed the presence of high levels of VOCs (trichloroethylene (TCE) and tetrachloroethylene (PCE)) in exceedance of drinking water standards. The VOCs are believed to be associated with an upgradient site, the Former Smithfield Plating Company (CERCLIS RID987473394) which received a "No further Remedial Action Planned (NFRAP)" decision from the EPA on August 31, 1995. The Smithfield Plating operations ceased in 1981; however, the previous owner of the plating company indicated that spent solvents and other process baths and solutions were disposed of on-site into an open-channel drain in the manufacturing building. The disposed wastes included tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, and other solvents and degreasers, acids, and cyanide.

Private well sampling did not detect VOCs in any private wells. On-site soil and groundwater sampling revealed low levels of contaminants; however, stream sediment sampling revealed higher levels of PCBs, chlorinated solvents and SVOCs. EPA has initiated a Site Reassessment to conduct additional sediment sampling in the stream in an attempt to determine if contaminants are migrating to a downgradient public swimming beach and fishery. This will be completed in 2003.

## EMERGENCY PLANNING AND RESPONSE PROGRAM

EPA New England's Emergency Planning and Response program prepares for, and responds to oil and chemical spills to the environment, and supports and supplements local, state, and private parties' efforts to address emergencies. In case of a chemical or biological threat or emergency, EPA has developed a detailed emergency response plan, a summary of which is in the Homeland Security section of this report.

EPA also oversees short-term cleanups across New England. Short-term cleanups, called "removal actions," reduce immediate threats to public health and the environment at sites that are typically less complex to cleanup than sites on the National Priorities List. (A description of the Superfund NPL program begins on page 18) Short-term cleanups may take anywhere from a few days to a few years to complete, depending on the type and extent of contamination.

An emergency occurs when hazardous or toxic chemicals are released into the environment causing potential health or environmental risks. EPA may need to respond within hours of the event.

Time-Critical Actions are those cleanups where, based on an evaluation of the site, EPA determines that on-site cleanup activities must be initiated within six months of determining that a short-term cleanup is appropriate. For time-critical actions, EPA conducts an investigation of the contamination and produces an "action memorandum" authorizing and outlining the cleanup process before beginning work.

Examples of the types of situations where EPA may be asked to respond immediately include those involving a fire, explosion or imminent, catastrophic contamination of a drinking water reservoir. In cases where an abandoned property has been identified with drums of toxic chemicals left behind, EPA may still assist in the cleanup but the timetable need not be as immediate. The following pages describe EPA's cleanup activities at non-NPL sites during 2002.

EPA's security and response readiness plan, discussed beginning on page 6 seeks to prepare the agency for the worst. In 2002, EPA hired five additional On-Scene Coordinators; provided extensive training to all staff to increase the level of preparedness to respond to an event; assisted municipalities and water districts across New England to reduce the vulnerability of public water supply systems; offered security awareness information to industrial facilities, pipeline owners, transporters, utilities, and warehouse owners of chemicals throughout New England; and improved plans to allow EPA to continue operation in an alternate location.

### Cumulative Total Federal Superfund Dollars Expended at non-National Priorities List Sites in New England, 1980-2002

CT \$67 million  
MA \$58.8 million  
ME \$28.3 million  
NH \$31.2 million  
RI \$12.9 million  
VT \$ 2.1 million  
TOTALS: **\$200.3 million**

Source: EPA New England, January 1, 2003

For further information on EPA New England's oil and chemical emergency response programs, visit our web site at [www.epa.gov/ne/superfund/er/erindex.htm](http://www.epa.gov/ne/superfund/er/erindex.htm).

## Short-Term Cleanup Site Summaries

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### RHODE ISLAND

#### SHORT-TERM CLEANUP SITES

#### Following are a few “Fast Facts” about EPA’s Emergency Response Program in Rhode Island:

- Since 1980, EPA has completed **32** short-term cleanups (“removal actions”) in Rhode Island, including **two (2)** during 2002. Three other removal projects were ongoing in the state during 2002.
- EPA has spent **\$12.9** million on-site assessment, investigation, and cleanup at non-National Priorities List sites in Rhode Island.
- To date, short-term cleanups at non-NPL sites in Rhode Island have removed over:
  - 124,400** gallons of liquid waste
  - 500** tons of solid waste
  - 7,573** tons of contaminated soils and sludges

Since 1992, EPA has conducted **13** oil spill cleanups in Rhode Island, valued at **\$600,000**.

Source: EPA New England, January 1, 2003

**Following is a summary of Rhode Island Superfund Emergency Response activities for 2002. For more information on short-term cleanup sites in New England, visit [www.epa.gov/ne/superfund/sites](http://www.epa.gov/ne/superfund/sites)**

## Cranston

### Rhode Island Technical Plating

Rhode Island Technical Plating, located at 50 Libera Street in Cranston, manufactured chrome plated automotive and motorcycle parts, nautical hardware, industrial components, and decorative fixtures from 1984 until it became inactive and placed into a court-ordered receivership in early 2001. Vats, drums, and other containers of hazardous substances were found throughout the building in various production, storage, and laboratory areas. In June 2001, EPA and RI DEM conducted a site investigation and documented 10,000 to 20,000 gallons of solutions (acid, caustic, cyanide, metals) in open vats and hundreds of drums and containers. There were also numerous puddles on the floor resulting from a leaking roof and a faint haze was seen hanging over the vats. In July 2001, EPA initiated a time-critical removal action at the site, which included additional sampling and analysis, repackaging of hazardous waste for disposal, excavating of contaminated soils, and shipping of wastes off-site for disposal.

Response Began: July 2001  
Response Completed: October 2001  
Superfund \$\$ Spent: \$369,420  
Wastes Removed: 17,695 gallons of liquid waste  
150 tons of solid waste

## East Providence

### T.D. Mack

T.D. Mack was a chemical distribution and repackaging warehouse located at 51 Dexter Road in East Providence. The two-acre property includes three one-story, woodframe and corrugated aluminum buildings. Hundreds of containers of various hazardous chemicals were staged around the property and there was evidence of spills throughout the site. Beginning in June 2001, EPA erected a fence, inventoried chemicals on the site, and began shipping wastes off-site for disposal. At EPA's request, a manufacturer of some of the chemicals found at the site retrieved and disposed of chemicals. A local business also reclaimed a drum of product to be reused. EPA has been in correspondence with a prospective purchaser of the site property. Should he decide to purchase the property, he will complete the removal activities which includes decontaminating the interior of the buildings.

Response Began: June 2001  
Current Status: Ongoing  
Superfund \$\$ Spent: \$460,961  
Wastes Removed: 491 drums and containers of hazardous materials  
over 1000 empty containers  
87 bags of asbestos containing material  
approximately 50 tons of pollutants and contaminants

## Short-Term Cleanup Site Summaries

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### RHODE ISLAND

#### SHORT-TERM CLEANUP SITES

### Warwick

#### Precision Chrome Plating

The 1/2-acre Precision Chrome Plating property is located at 54 Bay State Avenue, Warwick, in a mixed light industrial/commercial/ residential neighborhood. EPA found chromium levels in surface soil as high as 20,000 parts per million (ppm) and lead as high as 9,000 ppm. The contaminated soil is in a small fenced area that can only be accessed by plant workers. Additional sampling also indicated contamination on a small portion of neighboring property, probably due to the runoff of chromium and lead-contaminated soil. Contractors for the Potentially Responsible Party (PRP) began site cleanup under an administrative order and EPA oversight and were able to complete the work on the neighboring property. This portion of the cleanup exhausted the PRP's resources and EPA took over the remainder of the removal.

Response Began: September 2001

Response Completed: May 2002

Superfund \$\$ Spent: \$89,149

Waste Removed: 73 cubic yards of contaminated soil

### EPA NEW ENGLAND BROWNFIELDS: RESTORING COMMUNITIES

Environmental contamination can rob a community of its economic potential and its social structure even when contamination is not severe enough for a Superfund designation. Any amount of contamination - or even the perception of possible contamination - can prevent the use of valuable property. Across New England, hundreds of properties are abandoned or underused because of the fear of environmental contamination, a contamination that may not even exist. And at the same time these sites are left unused, development is consuming valuable open space elsewhere. Although such idle properties, called brownfields, are usually urban warehouses or abandoned factories, they can also be found in rural areas. When mines are abandoned or fields host illegal dumping, the value of the property can plummet.

EPA New England's Brownfields program provides solutions by helping communities restore the value to these abandoned sites. The program focuses on providing grants and services to help communities assess contamination, plan for new uses, and clean sites to ready them for redevelopment. Since 1995, the Brownfields program has distributed more than \$56 million to dozens of communities, states, and agencies around the region.

In January 2002, EPA significantly increased its spending on brownfields through the Small Business Liability Relief and Brownfields Revitalization Act, Public Law 107-118. The law lets communities use grants to clean sites, provides new liability protections for prospective purchasers and greatly enhances state and tribal programs, which continue to play a critical role in restoring and revitalizing Brownfields.

The EPA New England brownfields program includes:

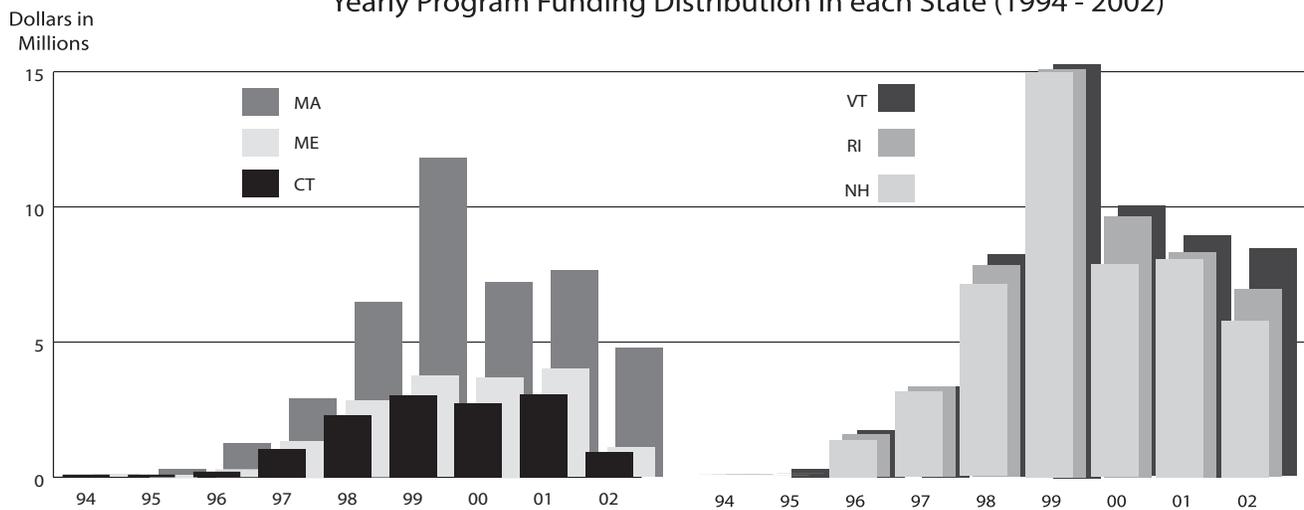
- Grants for assessing and cleaning up sites
- Site assessments carried out by EPA and/or states for communities
- Job training grants
- Showcase Community designations that bring with them a full-time EPA staffer working on Brownfields in the community.
- Grants to establish revolving loan funds for Brownfields cleanup

More details about EPA New England's Brownfields program and many success stories are contained in the publication: *Land and Community Development: Brownfields*.

### What are Brownfields?

Brownfields are real property, the expansion, redevelopment or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Yearly Program Funding Distribution in each State (1994 - 2002)



Source: EPA New England, January 1, 2003

Source: EPA New England, January 1, 2003

BROWNFIELDS  
OVERVIEW

### BROWNFIELDS REDEVELOPMENT PROVIDE OPPORTUNITIES

For years, contaminated and potentially contaminated properties around New England have sat idle and unused, stark demonstrations of the environmental damage progress can cause. But recently, turnarounds have been made possible by the federal Brownfields program.

In New London, Connecticut, one acre of a former railroad yard on the Thames River that sat deteriorating has been taken over by the city and combined with other properties to make way for a popular waterfront boardwalk that opened last year. The project is part of a comprehensive plan to open the city back up to the waterfront and take advantage of its recreational and educational resources.

In Massachusetts, 200 industrial acres in the Mystic River Valley north of Boston that sat deteriorating for decades are being cleaned and redeveloped to bring jobs, energy and green space back to an area that once served as the center of the region's economy. TeleCom City, a project involving three communities, will include 1.8 million square feet of office, laboratory and manufacturing space, as well as 200 units of housing and 60 acres of designated green space.

In Providence, Rhode Island, abandoned mill buildings and properties along the Woonasquatucket River in Providence are being cleaned up and readied for neighborhood parks that will eventually be linked to a 4.4-mile linear park and bike trail known as the Woonasquatucket River Greenway. Among the lynchpins of the Greenway project are the Riverside Mills and Lincoln Lace and Braid properties, two riverfront eyesores that are well on their way to being restored.

A burned-out building at the Manchester Airport in Londonderry, New Hampshire for years sat abandoned and empty of anything but hundreds of unidentified chemicals that had been packaged and stored on the site for much of the 1980s and 1990s. The five-acre property, which had been owned most recently by a chemical products company before it went bankrupt in 1994, has been cleaned of storage tanks, chemicals and contaminated oil and redeveloped for Enterprise Rent-a-Car's regional distribution center. The project is an important part of a major expansion project by the Manchester Airport Development Authority.

These turnarounds are just a few of the many success stories seen around New England as the eight-year-old federal Brownfields program bears fruit. Since 1995, EPA New England has provided more than \$56 million of Brownfields assistance—for grants, site evaluations, job training and cleanup loan programs—to dozens of communities, states and agencies around the region. The assistance has led to 630 completed site assessments, more than 100 cleanups that are underway or completed and thousands of new jobs. By targeting development to these sites, the assistance also is protecting precious open space from new development.

Emboldened by the success and huge popularity of the program, President Bush and Congress enacted new Brownfields legislation this year that substantially increased the funds available for Brownfields work – boosting annual funding to roughly \$167 million a year—and make more properties eligible for cleanups. The new law will greatly expand financial assistance to public entities and nonprofit groups for Brownfields revitalization, including grants for assessments, loans, cleanups and job training. It also provides new liability protections for prospective purchasers and greatly enhances state and tribal programs, which continue to play a critical role in restoring and revitalizing Brownfields.

Guidelines that were recently approved as part of the new legislation include various new precedents including: broadening the eligibility for funding to include sites with petroleum

contamination; providing cleanup grants to eligible entities, including nonprofit organizations that own property they wish to clean up; and allowing local governments to use up to 10 percent of the funds for monitoring the health of local populations exposed to hazardous wastes.

In October 2002, nearly 200 representatives from cities, towns, state agencies, tribes, nonprofit groups and consulting firms attended meetings in Massachusetts and New Hampshire to learn about the new legislation and upcoming funding opportunities for public entities and nonprofit groups. Based on feedback at these meetings, we expect to see many exciting projects move forward in the months ahead.

Information on financial assistance that is available can be found at [www.epa.gov/ne/brownfields](http://www.epa.gov/ne/brownfields)

### SUPERFUND GLOSSARY OF TERMS

There are many terms and acronyms specific to the Superfund program that you may not recognize. This glossary defines both terms and acronyms to ensure that the information provided in this document is easy to understand for everyone.

#### **Action Memorandum**

A document authorizing and outlining the cleanup plan that will be followed as part of a short-term cleanup.

#### **Acute Exposure**

A single exposure to a hazardous material for a brief length of time.

#### **Administrative Record**

A compilation of documents supporting an administrative action; under Superfund, administrative actions often compel Potentially Responsible Parties (PRPs) to undertake or pay for hazardous waste site cleanups.

#### **Advection**

Transportation of contaminants by the flow of a current of water or air.

#### **Agency for Toxic Substances and Disease Registry (ATSDR)**

An agency of the U.S. Department of Health and Human Services whose purpose is to prevent exposure and adverse human health effects and diminished quality of life associated with exposure to hazardous substances from waste sites, unplanned releases, and other sources of pollution present in the environment.

#### **Aquifer**

An underground geological formation, or group of formations, containing water; sources of groundwater for wells and springs.

#### **Benthic**

Relating to or occurring at the bottom of a body of water.

#### **Bioaccumulation**

The storage and buildup of chemicals in wildlife and plants. This process can take place in one of two ways: through direct consumption of chemicals, or when one organism consumes another that has already consumed these chemicals. The second method contributes to the level of these substances in the organism that is higher on the food chain.

#### **Carcinogen**

A substance or agent that may produce or increase the risk of cancer.

#### **Chronic Exposure**

Continuous or repeated exposure to a hazardous substance over a long period of time.

#### **Clean Air Act (CAA)**

A federal law that gives EPA authority to set standards for air quality and to control the release of airborne chemicals from industries, power plants, and cars.

**Clean Water Act (CWA)**

A federal law that regulates the pollution that will reach surface waters (rivers, lakes, ponds, and streams). The law prohibits a point source from discharging pollutants into the water unless the discharge meets certain permit requirements.

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**

A federal law, enacted in 1980 and nicknamed “Superfund,” that provides the authority through which the federal government can compel people or companies responsible for creating hazardous waste sites to clean them up. It also created a public trust fund, known as the Superfund, to assist with the cleanup of inactive and abandoned hazardous waste sites or accidentally spilled or illegally dumped hazardous materials.

**Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)**

A database that supports EPA headquarters and regional implementation of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act (SARA) of 1986. It contains information on site inspections, preliminary assessments, remedial information, and emergency and non-emergency cleanup activities for all hazardous substance/waste sites evaluated under the Superfund program, including federal facilities. In addition, CERCLIS contains information about all potential Superfund sites, as well as “Proposed” and “Final” sites that have been listed on the National Priorities List (NPL).

**Concentration**

The amount of a chemical in a given volume of air, water, or other medium. An example is 15 parts of carbon in a million parts of air.

**Contaminant**

Harmful or hazardous matter introduced into the environment.

**Contaminant Level**

A measure of how much of a contaminant is present.

**Corrective Action**

Cleanup of hazardous waste contamination at non-Superfund sites. See also Resource Conservation and Recovery Act (RCRA).

**Dense Non-Aqueous Phase Liquid (DNAPL)**

Liquid contaminants that are relatively insoluble and heavier than water; also known as sinkers because they will sink to the bottom of an aquifer, where they become especially difficult to detect and clean up.

**Ecosystem**

A specialized community, including all the component organisms, that forms an interacting system; for example, a marsh, a shoreline, a forest.

### **Emergency Planning and Community Right-to-Know Act (EPCRA)**

A federal law, also known as SARA Title III, that was enacted in November 1986. This law provides an infrastructure at the state and local levels to plan for chemical emergencies. Facilities that store, use, or release certain chemicals may be subject to various reporting requirements. Reported information is then made publicly available so that interested parties may become informed about potentially dangerous chemicals in their community.

### **Emergency Response**

A response action to situations that may cause immediate and serious harm to people or the environment.

### **Engineering Evaluation/Cost Analysis (EE/CA)**

A study conducted as part of a non-time critical short-term cleanup. The EE/CA identifies the objectives of the cleanup and analyzes various cleanup alternatives in terms of cost, effectiveness, and ease of implementation. The EE/CA is made available for public review and comment, prior to the publication of an action memorandum, which outlines the selected cleanup method.

### **Epidemiology**

Study of causes of disease or toxic effects in human populations.

### **Exposure**

Coming into contact with a substance through inhalation, ingestion, or direct contact with the skin; may be acute or chronic.

### **Explanation of Significant Differences (ESD)**

A document which outlines significant changes to a remedy selected in a Record of Decision (ROD) with respect to scope, performance, or cost.

### **Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)**

A federal law that requires labels on pesticides that provide clear directions for safe use; FIFRA also authorizes EPA to set standards to control how pesticides are used.

### **Five-year Review**

A periodic review of site conditions, data, land use, etc., to ensure that cleanup actions remain protective of human health and the environment.

### **Food Chain**

The sequence of transfers of energy in the form of food from one organism to another when one organism eats or decomposes another organism.

### **Groundwater**

Water found beneath the Earth's surface that fills pores between materials, such as sand, soil, or gravel.

### **Hazard Ranking System (HRS)**

The method EPA uses to assess and score the hazards posed by a site that takes into account the nature and extent of contamination and the potential for the hazardous substances to migrate from the site through air, soil, surface water, or groundwater; HRS scores are used to determine whether a site should be placed on the National Priorities List (NPL).

### **Hazardous Substance**

A broad term that includes all substances that can be harmful to people or the environment.

### **Hazardous Waste**

By-products or waste materials of manufacturing and other processes that have some dangerous property; generally categorized as corrosive, ignitable, toxic, or reactive, or in some way harmful to people or the environment.

### **Health Risk Assessment**

Scientific evaluation of the probability of harm resulting from exposure to hazardous materials.

### **Heavy Metals**

Metals such as lead, chromium, copper, and cobalt that can be toxic at relatively low concentrations.

### **Information Repository**

A set of information, technical reports, and reference documents regarding a Superfund site; it usually is located in a public building that is convenient for local residents, such as a public school, city hall, or public library.

### **Innovative Treatment Technologies**

New and creative methods used to effectively treat hazardous waste.

### **Inorganic Compounds**

Molecules that consist of chemical combinations of two or more elements that are not carbon, hydrogen, oxygen, or nitrogen.

### **Liability**

Under Superfund, a party responsible for the presence of hazardous waste at a site is also legally responsible for acting and paying to reduce or eliminate the risks posed by the site.

### **Light Non-Aqueous Phase Liquid (LNAPL)**

Liquid contaminants that are relatively insoluble and lighter than water; also known as floaters because they will float on top of an aquifer.

### **Long-term Cleanup**

A response action that eliminates or reduces a release or threatened release of hazardous substances that is a serious but not an immediate danger to people or the environment. This action, also known as a Remedial Action (RA), may take years to complete.

### **Migration**

The movement of a contaminant from one place to another.

### **Migration Pathways**

The routes a contaminant may move around in the environment (e.g., soil, groundwater, surface water, air).

### **Monitoring Well**

A well drilled at a hazardous waste management facility or Superfund site to collect groundwater samples for analysis to determine the amounts, types, and distribution of contaminants in the groundwater beneath the site.

### **Municipal Solid Waste**

Garbage that is disposed of in a sanitary or municipal solid waste landfill.

### **Mutagenic**

Causing alteration in the DNA (genes or chromosomes) of an organism.

### **National Institute of Environmental Health Sciences (NIEHS) Superfund Basic Research Program**

Provides funding to 18 programs at 70 universities and institutions around the United States to study the human health effects of hazardous substances in the environment, especially those found at uncontrolled, leaking, waste disposal sites.

### **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**

The federal government's blueprint for responding to both oil spills and hazardous substance releases. The NCP is the result of efforts to develop a national response capability and promote overall coordination among the hierarchy of responders and contingency plans.

### **National Priorities List (NPL)**

EPA's list of the most serious uncontrolled or abandoned hazardous waste sites, identified as candidates for long-term cleanup using money from the Superfund trust fund.

### **Non-time Critical Removal Actions**

A type of short-term cleanup in which, based on an evaluation of the site, EPA determines that more than six months is available before on-site activities must begin. A non-time-critical action includes a more extensive study of the contamination and cleanup options, called an Engineering Evaluation/Cost Analysis (EE/CA), and more formal public participation prior to the publishing of an action memorandum authorizing and outlining the cleanup plan.

### **Occupational Safety and Health Act (OSHA)**

A federal law that sets minimum health and safety standards for the workplace. Private employers must protect their employees by following OSHA requirements.

### **Office of Site Remediation and Restoration (OSRR)**

The EPA New England office that oversees the following programs: Superfund, Brownfields, Oil Spill, RCRA Corrective Action, and Underground Storage Tanks.

### **Oil Pollution Act (OPA)**

A federal law that was signed into law in August 1990, largely in response to rising public concern following the Exxon Valdez incident. The OPA improved the nation's ability to prevent and respond to oil spills by establishing provisions that expand the federal government's authority, and provide the money and resources necessary, to respond to oil spills. The OPA also created the national Oil Spill Liability Trust Fund, which is available to provide up to one billion dollars per spill incident.

### **Operable Unit (OU)**

The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with a site. Operable units may address geographical portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of a site.

### **Operation and Maintenance (O&M)**

Activities that protect the integrity of the selected remedy for a site. O&M measures are initiated by a state after the remedy has achieved the Remedial Action (RA) objectives and remediation goals outlined in the Record of Decision (ROD), and is determined to be operational and functional (O&F) based on state and federal agreement.

### **Organic Compounds**

Molecules that typically contain carbon, hydrogen, oxygen, or nitrogen.

### **Percolation**

The movement of water downward and radially through subsurface soil layers, usually continuing downward toward groundwater.

### **Permeability**

The degree to which groundwater can move freely through an aquifer.

### **Pesticide**

Any chemical used to kill or control undesired insects, weeds, rodents, fungi, bacteria, or other organisms. Some pesticides are known to cause cancer.

### **Plume**

A body of contaminated groundwater flowing from a specific source. The movement of the groundwater is influenced by such factors as local groundwater flow patterns, the character of the aquifer in which groundwater is contained, and the density of contaminants.

### **Point Source**

A stationary location or fixed facility from which pollutants are discharged; any single identifiable source of pollution; e.g., a pipe, ditch, ship, ore pit, factory smokestack.

### **Polychlorinated biphenyls (PCBs)**

A group of toxic chemicals used for a variety of purposes including electrical applications. PCBs are known to cause cancer in animals. PCB use and sale was banned in 1979 with the passage of the Toxic Substances Control Act (TSCA).

### **Potentially Responsible Parties (PRPs)**

Any individual or company who may have contributed to contamination at a Superfund site. Under CERCLA, PRPs are expected to conduct or pay for site cleanup.

### **Preliminary Assessment (PA)**

The process of collecting and reviewing available information about a known or suspected hazardous waste site or release that is used to determine if the site requires further study.

### **Proposed Plan**

A Superfund site cleanup strategy prepared by EPA that is subject to public comments.

### **Reactive**

One of four categories of hazardous waste; substances capable of changing into something else in the presence of other chemicals, usually violently or producing a hazardous by-product.

### **Recharge Areas**

Area in which an aquifer is replenished with water by the downward percolation of precipitation through soil and rock.

### **Record of Decision (ROD)**

A public document that explains which cleanup alternatives will be used to clean up a Superfund site. The ROD for sites listed on the National Priorities List (NPL) is created from information generated during the Remedial Investigation/Feasibility Study (RI/FS).

### **Release**

When a hazardous substance goes from a controlled condition (for example, inside a truck, barrel, storage tank, or landfill) to an uncontrolled condition in the air, water, or land.

### **Remedial Action (RA)**

The phases in Superfund site cleanup following the Remedial Design (RD) phase where the actual construction or implementation occurs. The RA is based on the specifications described in the Record of Decision (ROD).

### **Remedial Design (RD)**

The phase in Superfund site cleanup where the technical specifications for cleanup remedies and technologies are designed. The RD is based on the specifications described in the Record of Decision (ROD).

### **Remedial Investigation/Feasibility Study (RI/FS)**

Performed at the site after a site is listed on the National Priorities List (NPL). The RI serves as the mechanism for collecting data. The FS is the mechanism for the development, screening, and detailed evaluation of alternative remedial actions. The RI and FS are conducted concurrently; data collected in the RI influence the development of remedial alternatives in the FS, which in turn affect the data needs and scope of treat ability studies and additional field investigations.

### **Remedy**

The method selected to clean up a Superfund site.

### **Removal Action**

See short-term cleanup.

### **Residual Contamination**

Amount of a pollutant remaining in the environment after a natural or technological process has taken place (e.g., the level of chemical remaining in soil after it has been treated).

### **Resource Conservation and Recovery Act (RCRA)**

A federal law whose primary goals are to protect human health and the environment from the potential hazards of waste disposal, conserve energy and natural resources, reduce the amount of waste generated, and ensure that wastes are managed in an environmentally sound manner. Management of solid waste (e.g., garbage), hazardous waste, and underground storage tanks holding petroleum products or certain chemicals are regulated by RCRA.

### **Response Action**

An action taken by EPA or another federal, state, or local agency to address the risks posed by the release or threatened release of hazardous substances--generally categorized as emergency response, short-term cleanup, and long-term cleanup.

### **Safe Drinking Water Act (SDWA)**

A federal law that ensures that our tap water is fit to drink. Passed in 1974, SDWA sets national drinking water standards for public systems that deliver water to the tap. SDWA is used with the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to protect and clean up groundwater by setting water quality standards.

### **Sampling**

The collection of representative specimens analyzed to characterize site conditions.

### **Saturated Zone**

The area below the water table where all open spaces are filled with water under pressure equal to or greater than that of the atmosphere.

### **Semi-Volatile Organic Compounds (SVOCs)**

A group of chemicals composed primarily of carbon and hydrogen that have a tendency to evaporate (volatilize) into the air from water or soil. Some of the compounds that make up asphalt are examples of SVOCs.

### **Short-term Cleanup**

A cleanup process that addresses immediate threats to public health and the environment that typically consist of less complex or less extensive contamination problems than those which require a long-term cleanup. There are three types of short-term cleanups: emergencies (e.g., fire or explosions), time-critical actions, and non-time-critical actions. Also referred to as removal actions.

### **Site Assessment**

The process by which EPA determines whether a potential site should be placed on the National Priorities List (NPL); it can consist of a Preliminary Assessment (PA) or a combination of a PA and a Site Inspection (SI).

### **Site Inspection (SI)**

A technical phase in Superfund site cleanup following the Preliminary Assessment (PA), during which EPA gathers information (including sampling data) from a site in order to use the Hazard Ranking System (HRS) to determine whether the site should be placed on the National Priorities List (NPL).

### Source Reduction

The design, manufacture, or use of products that in some way reduces the amount of waste that must be disposed of; examples include reuse of by-products, reducing consumption, extending the useful life of a product, and minimizing materials going into production.

### Spill Prevention, Control and Countermeasures (SPCC)

A plan that outlines how a facility will prevent oil spills, as well as how it plans to control and contain an oil spill to keep it from reaching surface water. Examples include: installing a secondary containment such as a dike, and making sure oil tanks are located within a fenced or locked area.

### Superfund Amendments and Reauthorization Act (SARA)

Amended the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) on October 17, 1986. SARA reflected EPA's experience in administering the complex Superfund program during its first six years and made several important changes and additions to the program.

### Superfund Trust Fund

A public trust fund created with passage of CERCLA in 1980 to be used to help pay for the cleanup of abandoned hazardous waste sites.

### Surface Water

Bodies of water that form and remain above ground, such as lakes, ponds, rivers, streams, bays, and oceans.

### Time-critical Removal Actions

A type of short-term cleanup in which, based on an evaluation of the site, EPA determines that less than six months is available before site activities must be initiated. During time-critical actions, EPA conducts an investigation of the contamination and produces an action memorandum authorizing and outlining the cleanup before beginning the actual cleanup.

### Toxic

Poisonous.

### Toxic Release Inventory (TRI)

EPA requires annual reports of toxic chemical releases to the environment. These reports are submitted on EPA Form R, the TRI Reporting Form. The reports are required to provide the public with information on the releases of listed toxic chemicals in their communities and to provide EPA with release information to assist the Agency in determining the need for future regulations.

### Toxic Substances Control Act (TSCA)

A federal law, passed in 1976, that requires tests of chemicals that may harm human health or the environment; reviews of new chemical substances; limits on the availability of some existing chemicals; and import certification standards to ensure that imported chemicals comply with domestic rules. TSCA bars the introduction of chemicals that may pose unreasonable risks to people or the environment, when the risks outweigh possible economic and social benefits.

### Toxicology

Study of the effects of poisons in living organisms.

### **Treatment Technologies**

Processes applied to hazardous waste or contaminated materials, to permanently alter their condition through chemical, biological, or physical means, and reduce or eliminate their danger to people and the environment.

### **Underground Storage Tank (UST)**

An underground tank storing hazardous substances or petroleum products. Under the Resource Conservation and Recovery Act (RCRA), Congress directed EPA to establish regulatory programs that would prevent, detect, and clean up releases from UST systems containing petroleum or hazardous substances.

### **Unsaturated Zone**

The area above the water table where soil pores are not fully saturated, although some water may be present.

### **Volatile Organic Compounds (VOCs)**

A group of chemicals composed primarily of carbon and hydrogen that have a tendency to evaporate (volatilize) into the air from water or soil. VOCs include substances that are contained in common solvents and cleaning fluids. Some VOCs are known to cause cancer.

### **Water Table**

The top of the water-saturated portion of an aquifer.

### **Well**

A bored, drilled, or driven shaft whose purpose is to reach underground water supplies.

[www.epa.gov/ne/superfund](http://www.epa.gov/ne/superfund)  
[www.epa.gov/ne/brownfields](http://www.epa.gov/ne/brownfields)