ENVIRONMENTAL LAW INSTITUTE

AN ANALYSIS OF STATE SUPERFUND PROGRAMS

50-State Study, 2001 Update

November 2002

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Environmental Law Institute®

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ISBN No. 1-58576-049-8. ELI Project No. 981621

ACKNOWLEDGEMENTS

This report was prepared by the Environmental Law Institute (ELI) with funding from the U.S. Environmental Protection Agency (U.S. EPA) under Assistance Agreement ID No. CR-822795-01. It does not represent the views of the U.S. EPA and no official endorsement should be inferred. Environmental Law Institute staff contributing to this report were Margaret Filbey, Dorigen Fried, Samantha Klein, James McElfish, Kelly Mott, John Pendergrass, Kapena Pflum, and Elizabeth Seeger. Michael Bellot and Susan Sladek from U.S. EPA also contributed to this report. The assistance of state program officials was essential to this report and is gratefully acknowledged. This report is the seventh in a series of ELI studies of state superfund programs beginning in 1989, the first four of which were published by U.S. EPA.

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EXECUTIVE SUMMARY

States are in the process of cleaning up thousands of sites that are not on the National Priorities List (NPL) but are contaminated with hazardous substances. Because these sites are not on the NPL, they are not eligible for cleanup funding under the federal Superfund program. These non-NPL cleanups are either paid for by the states, by responsible parties, or by volunteers such as developers or prospective purchasers who want to put the site to a new use. In fiscal year 2000 (FY00), states completed cleanups at more than 4,500 non-NPL sites, with slightly fewer than half of those being completed under states' voluntary cleanup programs. The total number of cleanups completed was about the same as the total completed in FY97, after accounting for differences in reporting by two states. By the end of FY00, the states had completed cleanups at a total of about 29,000 non-NPL sites since the start of their respective cleanup programs. New Jersey, which enacted the first cleanup law in the nation in 1976, accounts for more than a third of that total. In addition, states were overseeing or paying for cleanups that were underway at about 15,700 sites during FY00. The proportion of voluntary cleanups increased, from 40 percent of the total cleanups underway and 40 percent of the total cleanups completed in FY97, to 45 percent of both categories in FY00.

Cleanup programs allow states to restore contaminated sites for development and use while protecting public health and the environment. However, some sites require restrictions on their use and long-term stewardship even after a cleanup is completed. Long-term stewardship is of growing importance due to the increasing use of remedies, in mandatory, voluntary, brownfields, and RCRA cleanup programs, that allow hazardous substances to remain in place at levels that do not allow for unrestricted use. This report investigated states' use of long-term stewardship to protect public health, safety, and the environment at sites with such residual contamination. Forty-one (41) states, including the District of Columbia, have long-term stewardship programs for one or more of their state cleanup, voluntary cleanup, or brownfields programs. Twenty-six (26) of these states have specific statutory authority for long-term stewardship of sites. Twenty-four (24) states also apply their long-term stewardship program to RCRA corrective actions. Three additional states undertake some long-term stewardship activities but disclaim having such a program.

Institutional controls are the most common long-term stewardship activity, with 43 states relying upon these measures to manage risks from residual contamination. Thirty-eight (38) states reported using proprietary institutional controls. Informational systems, including signs, educational materials, published notices, warnings about consumption of fish or wildlife, site registries, and databases, were used by 33 states. Twenty-nine (29) states used governmental or regulatory institutional controls, such as zoning, local ordinances, building permits, and well drilling or groundwater use restrictions. Twenty (20) states report layering or using more than one type of institutional control at least at some sites. Seventeen (17) states have established schedules for auditing sites where institutional controls have been implemented, and 24 reported that their long-term stewardship program includes a system for recording and maintaining information about which sites have institutional controls. Although states generally consider cleanup to be complete when institutional controls have been implemented, 39 states reserve the right to require additional work at a site under certain conditions.

Even though states recognize the importance of long-term stewardship, this study demonstrates that they are not always fully equipped to implement long-term stewardship. Only 17 states report that a specific amount of staff time is allotted to long-term stewardship activities and nine of those devote less than one full-time equivalent (FTE) to such activities. Moreover, 28 of the 34 states that responded reported that there is no separate funding for long-term stewardship activities.

Overall, the study found that states were able to complete about the same number of cleanups in 2000 as they had in 1997 while spending about 10 percent less than they had in 1997. States' total spending of $505.6 million (M) in 2000 was $59.5M less than the $565.1M spent in 1997, though some of that difference (about $19M) was due to fewer states reporting in 2000. On the other hand, the total obligated in FY00 for spending in future years—$564.4M (35 states reporting)—was $116.4M (26 percent) more than the $448 M obligated in FY97.

States spend substantially more money on their non-NPL site cleanups than they spend on NPL cleanups. In FY00, states spent $208,694,679 on non-NPL sites (25 reporting), compared to only $37,075,724 on NPL sites (24 reporting). Additionally, states obligated $229,651,509 for non-NPL sites (24 reporting), and $66,322,453 for NPL sites (21 reporting). States also spent more money on non-NPL than NPL cleanups in 1995 and 1997.

The substantial number of cleanups that states have completed has yet to cause a significant reduction in the inventory of sites needing some type of cleanup. In 2000, the states reported approximately 63,000 known and suspected sites, a decline from the over 69,000 reported in 1997. But during that period a few states reexamined the sites in this category and removed duplicate sites, those for which they determined no further action was necessary, and petroleum tank removal sites. The decline in known and suspected sites is largely a result of this better classification of sites, particularly the exclusion of tank removals, with the number of completed cleanups being offset for the most part by the addition of newly discovered sites with known or suspected contamination. After accounting for site reclassification, the trend in this category appears to be an overall increase in known and suspected sites rather than a decline.

States appear to be adjusting their lists of sites needing attention in a similar manner. In 2000, the states reported approximately 23,000 sites as needing some type of cleanup, a decline of approximately 1,000 sites since 1997. However, after factoring in reporting discrepancies, it appears the total universe of sites requiring attention is stable and may even be growing slightly, suggesting that state programs are continuing to identify new sites needing attention.

The number of state funds dedicated to cleaning up non-NPL sites has increased from 105 in 1997 to 117 in 2000. Thirty-six (36) states had more than one fund for cleaning up sites contaminated by hazardous substances in 2000, compared to 33 states with more than one fund in 1997, 21 in 1995, and only 15 in 1989. All of these new funds were specialized funds created by state legislatures to pay for cleanups of brownfields, dry cleaners, or other specific types of sites or sources of contamination. Since 1997, states have been active in enacting legislation to create or modify brownfields programs and voluntary cleanup programs. Twelve (12) states—Alabama, Arizona, Arkansas, Florida, Illinois, Maryland, Michigan, Missouri, Ohio, Oregon, Washington D.C., and Wisconsin—enacted new brownfields legislation between 1997 and the end of 2001. In addition, five states—the District of Columbia, Kentucky, Louisiana, Puerto Rico, and Wyoming—have started voluntary cleanup programs for a total of 49 states with formal voluntary cleanup programs.

Despite the increase in the number of funds, the total balances of states' cleanup funds have been declining since 1990. In 2000, the total of all fund balances was $1.24B, $178M (12.6 percent) less than the 1997 balance of $1.41B. One interesting development was that there were more states with large balances in 2000 than in prior years. In FY00, eight states had balances of $50M or more, the largest number of states at that level since ELI began collecting this information in 1989.

States may face other limitations to their abilities to complete non-NPL cleanups. For example, staffing levels within the states' cleanup programs decreased from 3,474 full-time equivalent (FTE) positions in 1997, to 3,344 FTE staff positions in 2000, a decrease of almost 4 percent, which was 3 percent lower than the number of positions reported in 1995. Additionally, out of the 43 states that reported on the number of *authorized* positions in their principal cleanup offices, only 17 of the reporting states were fully staffed, compared with 18 in 1997. Of the staff members employed by the states, relatively few are attorneys. Only five states reported having 10 or more attorneys providing legal support for cleanup projects.

Since 1997, the types of criteria that states consider when establishing cleanup levels have not changed significantly, most states continue to use the same criteria as in 1997, and very few states have added any new criteria to their programs. Although the general cleanup criteria have remained constant for years, many states have developed more sophisticated methods for choosing cleanup standards. By 2001, 23 states used a tiered system of cleanup standards, compared to only seven states in 1997. In a tiered or multiple methods system the state will offer at least two and as many as four options from which the party conducting the cleanup may choose. Tiered systems allow the party remediating the site to select the option that will minimize transaction and other costs.

The number of states that require some form of public participation as part of the state cleanup program increased from 41 in 1997 to 47 in 2001. Forty-five (45) of these states have provisions for public comment. Of these 45 states, 35 have statutory or regulatory provisions for public comments, whereas only 24 states had statutory

or regulatory requirements for public comment in 1997. The rest of the states provide opportunities for public comment as a matter of policy or on an ad hoc basis.

An increasing number of states have adopted property transfer provisions. Thirty-seven (37) states report that they have some type of property transfer provision related to sites contaminated with hazardous substances, up from 31 states in 1997, 25 in 1995, 23 in 1993, and 18 in 1991. Twenty-six (26) states report that they maintain a database or databases to assist purchasers, lenders, and other parties in conducting environmental due diligence to determine whether sites have been contaminated. This is the same number of states as in 1997, but a substantial increase from prior years.

Vermont, North Dakota, and South Dakota are the only states as of the end of 2001 that did not have formal voluntary cleanup programs. However, both Vermont and South Dakota allow private parties to initiate voluntary cleanups. Additionally, it should be noted that Vermont has a brownfields cleanup program that allows for certain types of voluntary cleanups and South Dakota is currently developing a state voluntary cleanup program. Cleanup standards for voluntary sites are typically the same as the standards applied at state-led or enforcement sites. Eight (8) states reported some differences between the standards applied at voluntary and non-voluntary sites. Hawaii uses more stringent acceptable contamination levels for its voluntary cleanup program's risk assessment for carcinogens, soil standards, and chemical-specific health-based standards. Other states where the standards for voluntary cleanups vary from the standards for state-led cleanups are Arizona, Iowa, Kansas, Ohio, Utah, and Virginia, while Colorado has cleanup standards only for its voluntary program. Three (3) states have completed 1,000 or more voluntary cleanups since the start of their programs. New Jersey has completed 3,500 voluntary cleanups, while Massachusetts has completed 2,280, and Pennsylvania 1,000.

States typically require a participant to reimburse the state for the cost of overseeing a voluntary cleanup. Forty-four (44) states collect fees or seek reimbursement from voluntary program participants, however only two states (Delaware and Indiana) rely solely on the fees or reimbursement. Most states supplement the fees with state and federal funds. Only Florida, Georgia, and New Hampshire do not charge participants a fee. Florida and Georgia fund their programs from their general budgets and New Hampshire funds its program from a combination of federal and state funds.

Forty-five (45) states reported that they target brownfields, either through a separate program or through their voluntary cleanup programs. Thirty-one (31) states have brownfields programs that are separate from their voluntary cleanup programs. Although some states are reluctant to identify brownfields that are not already undergoing cleanup because property owners object that being identified as a brownfield creates a stigma that reduces the value of the property, five states reported that they have identified more than 1,000 brownfield sites. Wisconsin reported having identified 10,000 brownfields. Site redevelopment is a cornerstone of many brownfields programs, but few states report having completed redevelopment or having commitments for redevelopment at significant numbers of sites. New Jersey had redeveloped 393 sites, followed by Colorado with 226, and Rhode Island with 60. Indiana reported the highest number of commitments for redevelopment with 140, while Connecticut had 60. Almost all states with brownfields programs provide incentives for participation, which fall into two general categories: liability relief and financial incentives.

LIST OF ACRONYMS

AG	–	Attorney General
ARARs	–	Applicable or Relevant and Appropriate Requirements
AST	–	Above-ground Storage Tanks
ASTSWMO	–	Association of State and Territorial Solid Waste Management Officials
CERCLA	–	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	–	Comprehensive Environmental Response, Compensation, and Liability Information System
CPCA	–	Core Program Cooperative Agreement
DSMOA	–	Department of Defense and State Memorandum of Agreement
ELI	–	Environmental Law Institute
FOIA	–	Freedom of Information Act
FTE	–	Full-time Equivalent
GAO	–	General Accounting Office
HRS	–	Hazard Ranking System
LUST	–	Leaking Underground Storage Tank
MCL	–	Maximum Contaminant Level
MCLG	–	Maximum Contaminant Level Goal
MSCA	–	Multi-Site Cooperative Agreement
NCP	–	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	–	National Priorities List for Uncontrolled Hazardous Waste Sites
NRD	–	Natural Resource Damages
OGC	–	Office of General Counsel
O&M	–	Operations and Maintenance
OPA	–	Oil Pollution Act
PA/SI	–	Preliminary Assessment/Site Investigation
PRP	–	Potentially Responsible Party
RA	–	Remedial Action
RBCA	–	Risk-Based Corrective Action
RCRA	–	Resource Conservation and Recovery Act
RD	–	Remedial Design
RI/FS	–	Remedial Investigation/Feasibility Study
ROD	–	Record of Decision
RP	–	Responsible Party
RPM	–	Remedial Project Manager
SACA	–	Support Agency Cooperative Agreement
SARA	–	Superfund Amendments and Reauthorization Act of 1986
SMOA	–	Superfund Memorandum of Agreement
SSCA	–	Site Specific Cooperative Agreement
TAG	–	Technical Assistance Grant
UST	–	Underground Storage Tank
VOC	–	Volatile Organic Compound

CHAPTER I: INTRODUCTION

In 1976, New Jersey's landmark Spill Compensation and Control Act pioneered the concept of government programs to clean up contaminated land. Four years later, Congress modeled the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, generally referred to as Superfund) on New Jersey's Spill Act. In the 21 years since the passage of the federal Superfund law, the nation has realized that contamination of land and water with hazardous substances is far more common, and more expensive to clean up, than was thought in 1980. Coordinated cleanup efforts between federal and state agencies currently address numerous sites targeted by the U.S. Environmental Protection Agency's (EPA's) National Priorities List (NPL), the list of sites with uncontrolled releases of hazardous substances that are the highest priorities for long-term remediation.

At NPL sites, the role of the states ranges from required cost sharing at federally funded cleanups to active site management. A vast number of contaminated sites do not meet the criteria for inclusion on the NPL. For these non-NPL sites the federal government's role is likely to be limited to site assessment and emergency response or removal activities. For many non-NPL sites, the federal government may not be involved at all. Thus, if any government-supervised activity is to occur at non-NPL sites, states will have to oversee, enforce, or fund cleanups. For these reasons, the role of the states in addressing contaminated sites, independently and in concert with the federal government, has become increasingly important. The prospects for increasing state involvement at both NPL and non-NPL sites depend on the willingness and capacity of states to develop effective programs, obtain adequate resources to fund cleanups, encourage private party cleanups, take enforcement action where needed to ensure private cleanups, and oversee private cleanups.

A key step in enhancing the federal-state partnership is to understand the states' cleanup programs aimed at non-NPL sites. This is the objective of the present report. This report updates the results of a study initially conducted in 1989 (and updated in 1990, 1991, 1993, 1995, and 1998) by the Environmental Law Institute (ELI) in cooperation with EPA's Office of Emergency and Remedial Response.

PURPOSE OF THE STUDY

Under the Superfund Amendments and Reauthorization Act (SARA) of 1986, Congress requires EPA to involve states in the Superfund program in a "substantial and meaningful" way. EPA's State, Tribal, and Site Identification Center is responsible for developing regulations, guidance, and policy related to this Congressional mandate. As part of its responsibilities, the Center routinely collects and examines information about states' capabilities to contribute to or manage cleanups at hazardous substance sites. The Environmental Law Institute's Center for State, Local, and Regional Environmental Programs helps states and the federal government to improve state environmental programs and promotes better public understanding and cooperation between state and federal environmental agencies. Conducted by ELI under a cooperative agreement with EPA, this study examines site cleanup programs in all 50 states, the District of Columbia, and the Commonwealth of Puerto Rico, and includes descriptions of their statutes, program organization, staffing, funding, expenditures, cleanup standards, enforcement provisions, and cleanup activities. For convenience in discussion and in the tables accompanying this report (see Chapter IV), these are all referred to as "states." Totals, therefore, include 52 "states."

RESEARCH METHODOLOGY

To ensure the completeness and accuracy of the information for this report, ELI collected statutes, regulations, and other state documents, interviewed state program staff by telephone, and verified information for each state. ELI initially reviewed both the information gathered for prior versions of the report and newer information found in state documents, legislative reporting services, newsletters, state web sites, and EPA documents. A request for updated program information was sent to each state with a general request for copies of relevant legislative amendments or state reports. ELI then conducted telephone interviews to clarify written responses and to reconcile any discrepancies in the data. A few states declined to respond to any of the written or telephoned requests for information.

Information about these states, Idaho, Kansas, Puerto Rico, and West Virginia, is included in this Update to the extent that ELI could obtain it from the states' web sites, or other sources of equivalent reliability.

In assembling this report, ELI has tried to take a "snapshot" of state cleanup programs, while recognizing that they are dynamic and that changes may occur after the publication of this update. For this report, ELI used state information available *on or before October 31, 2001*. However, much of the data reported by the states, particularly that related to sites, cleanup activities, funding, and expenditures, were based on their 2000 fiscal years. The most current information available as of October 31, 2001 is included with respect to statutes, cleanup standards, policies, and long-term stewardship programs. States were provided an opportunity to review and update all of the information in the state program summaries found in Chapter V.

ORGANIZATION OF THE REPORT

The report is divided into a chapter discussing aggregate data, trends, and developments across the broad sweep of the states' cleanup programs, a chapter on the special focus topic for this Update on long-term stewardship, a chapter devoted to tables, and a chapter of state program summaries. An overview of state superfund programs is provided in the Executive Summary. Chapter II examines statutes, program staffing and organization, sites, cleanup activities, cleanup policies and standards, public participation requirements, funding and expenditures, voluntary cleanup programs, brownfield programs, and enforcement tools. Chapter III discusses the states' long-term stewardship programs, a topic of particular interest and development in many states. Chapter IV presents detailed program information arranged in tables that facilitate comparisons among the 52 states (including the District of Columbia and the Commonwealth of Puerto Rico). Chapter V contains individual summaries of each state program. For the few states that do not have non-NPL cleanup programs, the summaries focus on their capabilities to address contaminated sites using other authorities and resources.

COMPARISON OF STATE DATA

There is significant interest in state cleanup programs due to the fact that they must function in a complementary manner with the federal Superfund statute in order to effectively protect the public from the risks at sites contaminated with hazardous substances. In addition, the recently enacted Small Business Liability Relief and Brownfields Revitalization Act, will affect state brownfields programs. The information in this report will consequently receive substantial scrutiny and use. It is, therefore, critical to acknowledge the limitations of these data in directly comparing state programs.

First, *this study covers non-NPL sites, which can vary from sites that are similar to NPL sites to small sites with low levels of contamination.* Second, differences in state program terminology, administrative procedures, and accounting procedures, as well as in the detail of information provided by states, limit the comparability of programs. Variation among state cleanup programs should be expected because there is no national standard. There may also be differences between the information presented in this report and in other studies concerning state cleanup programs. This is due not only to the differences among states but also to specific program questions asked. The most appropriate comparisons, therefore, are among state non-NPL cleanup capabilities and activity levels, and similarities and differences in the general types of cleanup authorities and policies applied. Finally, much of the data for this report, particularly the financial information and numbers of staff and cleanups, is for the states' 2000 fiscal year, which for most states ended June 30, 2000.

CHAPTER II: STATE "SUPERFUND" PROGRAMS

Since 1980, the vast majority of states have enacted laws governing the cleanup of contaminated land and establishing funds to pay for cleanup of non-NPL sites where no responsible party is available, able, or willing to do it. Many states have been cleaning up land contaminated by hazardous substances, or overseeing such cleanups, for close to two decades. Even states that have only recently established cleanup programs have benefited from the experience of other states.

The fact that state cleanup laws are independent of the federal Superfund statute is critical to understanding the current state of development of state cleanup programs. This federal law did not follow the pattern of the federal pollution control laws, which set minimum national standards that could be administered by the states after their programs received approval by the federal agency. The absence of a requirement to submit their programs to federal review and approval has enabled states to experiment widely and to develop some highly innovative and effective cleanup programs. Nevertheless, the majority of the state cleanup programs have authorities similar to the federal Superfund program. For the purposes of this study, a state "superfund" or cleanup program has some or all of the following characteristics:

1) Procedures for emergency response actions and more permanent remediation of environmental and health risks;
2) Provisions for a cleanup fund or other financing mechanism to pay for studies and remediation activities;
3) Enforcement authorities to compel responsible parties (RPs) to conduct or pay for studies and/or site remediation;
4) Staff to manage state-funded remediation and to oversee RP-conducted remediation; and
5) Procedures for public participation in decision-making on site cleanup.

This chapter presents detailed information on state cleanup programs for all 50 states, the District of Columbia, and the Commonwealth of Puerto Rico. For convenience in discussion and in the tables accompanying this report (see Chapter IV), these are all referred to as "states." Totals, therefore, include 52 "states." This chapter highlights similarities and differences among state statutes and programs in areas such as cleanup and oversight capabilities, number of sites cleaned up, staffing, funding, enforcement authorities, cleanup standards, and public participation. This chapter also includes sections describing the voluntary cleanup and brownfield programs of the states, which was included in Chapter IV of the 1993, 1995, and 1998 Updates.

A. OVERVIEW OF CLEANUP ACTIVITIES AND CAPABILITIES

State cleanup programs have expanded and improved substantially since ELI first studied them in detail in 1989, but the improvement has not been uniform and there have been some retrenchments in the past few years, particularly in funding, and to a lesser extent staffing. Even these decreases may not have affected an individual state's ability to clean up sites if other elements of the program have been augmented. Fewer staff and less state money may be needed, for example, if a state is relying more on a new voluntary cleanup program, or if it has improved the efficiency of its state superfund program. Among the more notable improvements has been in actual cleanups. In 1989, half of the states were actively managing cleanup activities at non-NPL sites, but by the end of FY97 almost all of the states were actively managing non-NPL cleanups and that continued to be the case through FY00. As of the close of FY00, the states reported having completed approximately 29,000 cleanups over the entire period that their programs have existed. This is substantially fewer cleanups than the 41,000 completed cleanups reported in the 1998 Update. Texas and New Jersey revised their totals to exclude emergency response cleanups and homeowner tank cleanups, respectively. For further explanation of these revisions see Section C, Cleanup Activities. In the aggregate, under their state superfund programs the states had about 8,500 cleanups underway and completed about 2,400 in FY00. In addition, they were overseeing more than 7,100 voluntary cleanups that were currently underway and about 2,200 that were completed. Compared to FY97, these figures represent substantial decreases in the numbers of cleanups underway and completed during the year under states' mandatory cleanup programs at the same time that

there was a substantial increase in the number of voluntary cleanups underway (the number of voluntary cleanups completed during FY00 was essentially the same as in FY97). This suggests that states were shifting efforts to voluntary cleanup programs, although voluntary cleanups are still less than half of the total cleanups underway and of the cleanups completed during the year.

As early as 1989, all but two states had established a fund from which they could pay for cleanups if no responsible parties could be found to pay for, or conduct, the cleanup. But at the end of FY89, 18 of those states' funds had balances of less than $1 million (M), which is likely to be insufficient to pay for a permanent remedy at even a single site with moderate contamination. By 2000, however, Idaho reported that it no longer had an authorized fund, and Nebraska and the District of Columbia remained without a fund. In addition, six states had funds with balances below $1M. The amount of money available to a state is one indicator of capability to clean up sites and the number of states with small amounts of money available (< $1M) declined between 1997 (10) and 2000, while the number with more than $50M increased from six to eight.

Another indicator of the maturation of state cleanup programs is the degree to which states have standardized their decisions on the crucial question of how clean is clean. In the late 1980s, most states were still in the site discovery and assessment stage and few had much experience with deciding what cleanup standards to apply. Thus cleanup standards were largely determined on an ad hoc, site-by-site basis, and many states were unclear about where to look for guidance or for appropriate standards. In 1989, 20 states reported using EPA guidance in determining cleanup standards, but few states specifically identified other potential sources of standards. By 1997, virtually every state had moved beyond merely looking to EPA for guidance to using a variety of criteria, including risk assessments for carcinogens and noncarcinogens, surface water quality criteria, future land use, drinking water standards, groundwater standards, and soil standards. The maturity of state cleanup programs is also illustrated by the increase, from two in 1989 to 44 in 1997, in states that have established some cleanup standards by regulation. ELI did not seek information for this Update about the regulatory status of cleanup standards, but the District of Columbia is in the rule-making process for setting cleanup standards under its new Clean Lands program. Thus, the vast majority of states have moved from purely ad hoc decision making to providing predictability for this crucial decision.

B. STATUTORY AUTHORITIES

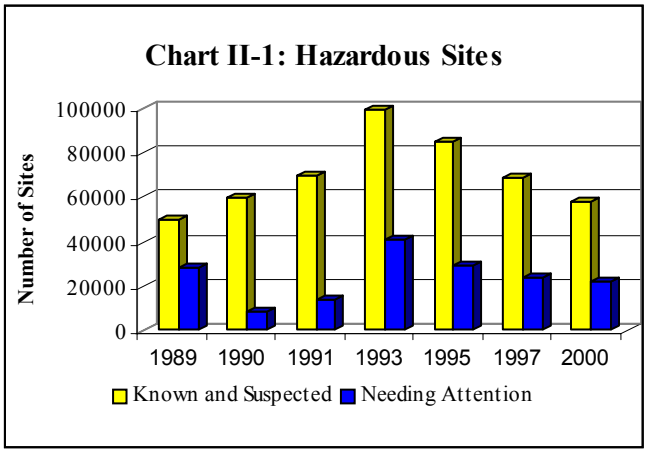
Table IV-2 summarizes the many cleanup statutes and related environmental laws enacted by the states to address sites contaminated by hazardous substances. In some states with comprehensive cleanup statutes, these laws include state cleanup funds, enforcement authorities, priority lists, citizen suit provisions, provisions governing property transfers, voluntary cleanup programs, brownfields programs, and long-term stewardship provisions. Table IV-2 is intended to show the activities and programs that states authorize under their statutes. Totals listed in this section and in the table may not be identical to the number of states listed as having a particular program, such as a voluntary cleanup program or long-term stewardship program, as the state may have created the program as part of an administrative initiative or under more general authority.

Since the 1998 study, states have been active in implementing legislation to create or modify brownfields programs and voluntary cleanup programs. Twelve (12) states (Alabama, Arizona, Arkansas, the District of Columbia, Florida, Illinois, Maryland, Michigan, Missouri, Ohio, Oregon, and Wisconsin) have enacted new brownfields legislation since the 1998 study. In addition, Indiana modified its brownfields tax credit program. Six states (Alabama, Arizona, the District of Columbia, Kentucky, Nevada, and Wyoming) have enacted voluntary cleanup legislation since 1997. The Arizona law altered its existing voluntary program, while the Alabama and Nevada laws provided explicit statutory authority for what had been informal programs. South Carolina also authorized a brownfields and voluntary cleanup program under its Hazardous Waste Management Act, and Nevada also authorized a voluntary cleanup program under its Hazardous Materials Provision.

ELI's1995 study documented a new trend of states enacting Dry Cleaning statutes to clean up hazardous sites. Four (4) states (Alabama, Illinois, South Carolina, and Wisconsin) have continued this trend by enacting new dry cleaning cleanup statutes since 1997.

A new area that ELI investigated with this study is the long-term stewardship of sites (see Chapter III for further discussion). Twenty-six (26) states (Alabama, Arkansas, California, Colorado, the District of Columbia, Florida, Iowa, Kentucky, Maine, Maryland, Michigan, Minnesota, Mississippi, Montana, New Hampshire, New Jersey, North

Carolina, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Washington, West Virginia, and Wisconsin) authorize long-term stewardship of sites under their statutes.



C. HAZARDOUS SUBSTANCES SITES

Site Inventory

State programs have responsibility for a substantial number of sites contaminated with hazardous substances. While approximately 1,200 sites are on the National Priorities List (NPL) (giving EPA primary jurisdiction for remediation), tens of thousands of sites are not on the NPL. Responsibility for remediation of these sites falls primarily to the states (or to EPA's removal program).

Ascertaining the number of non-NPL sites is critical to understanding the magnitude of the cleanup task facing the states. This study reports the hazardous substance sites identified by the states while excluding petroleum-contaminated sites and leaking underground storage tank sites. The number of non-NPL hazardous substance sites for each state is reported in Table IV-3.

ELI has used three categories for reporting the number of non-NPL sites. These categories have been devised to assure that, even though states use widely differing internal approaches in accounting for sites, similar sites are counted in similar ways. The categories and approximate 2000 totals are:

- known and suspected sites (~63,000 sites)
- sites identified as needing attention (~23,000 sites)
- sites on a state inventory, priority list, or registry (~15,000 sites, but numbers not comparable)

The broadest category of hazardous substance sites is *known and suspected sites*. This category reflects the maximum number of sites known to each state and tracked in some way in connection with its cleanup program. The number is an estimate in some states, but is a confirmed number in most. In some states, the known sites category includes those that have not yet undergone assessment. This category is most useful (1) in determining how large each state perceives the universe of sites is within its own jurisdiction, and (2) in defining an outer limit to the national task of addressing hazardous sites.

In 2000, the states reported approximately 63,000 known and suspected sites, a decline from the over 69,000 reported in 1997 (but see below). The number of known and suspected sites in each state ranges from zero to ~5,000 (Connecticut, Illinois, and New Jersey). Of the states reporting in both 1997 and 2000, 26 indicated increases in sites and eight indicated decreases in sites. Large changes in the reported numbers for known and suspected sites between 1997 and 2000 occurred in a handful of states. Connecticut, Florida, Louisiana, Missouri, New Mexico, Oregon, Rhode Island, and South Carolina reported significant increases, whereas Alaska, Arizona, New Jersey, Washington, and Wisconsin reported significant decreases.

The decline in known and suspected sites is the result of several factors, particularly the completion of about 4,600 cleanups in 2000 (similar numbers of cleanups presumably were also completed in 1998 and 1999, since the 1997 figure was 5,552) and activities in a few states resulting in better classification of sites. Arizona, for example, reported 71 sites (down from 900 in 1997) because the state reevaluated its site list and deleted duplicate sites, sites that had been closed out, and sites handled by other programs. New Jersey accounted for the greatest shift in sites (5,000, down from 15,177 in 1997) because its estimate in 2000 excluded homeowner tank cleanups, which account for 60 to 70 percent of the sites in its database and were included in prior Updates. Two states (Kansas and West Virginia) provided site numbers in 1997 (a total of 1,320 sites) but did not provide site numbers for this report. But this was balanced by two states (Indiana and South Dakota) that provided site numbers for this report (a total of 1,542 sites) but had not provided site numbers in 1997. In order to be more consistent with the methodology that

ELI has used for this and prior Updates and other state data, the 10,000 New Jersey homeowner tank sites should be subtracted from the 1997 number, leaving 59,000 total sites (4,000 less than the 2000 total). Therefore, after accounting for site reclassification, the trend in this category appears to be an overall increase in known and suspected sites rather than a decline as indicated by the initial totals.

The second, and most useful, of the hazardous site categories tracked by ELI is *sites identified as needing attention.* This category—a subset of the known and suspected sites—consists of sites that have been evaluated by the state and determined to require some level of cleanup or further evaluation. This number is the best indicator of the workload facing each state's cleanup program, and is the most useful for national and state program planning purposes.

Nationally, the states reported approximately 23,000 sites in this category in 2000, a decrease of approximately 1,000 sites since 1997 (but see below). The number of sites needing attention in particular states ranges from zero to 3,900 (New Jersey). Only five states have more than 1,000 sites in this category: Connecticut (2,107), Florida (2,460), Kentucky (1,500), Massachusetts (2,305), and New Jersey (3,900). Of the states reporting in both 1997 and 2000, 23 indicated increases in sites needing attention and 12 indicated decreases in sites needing attention. Connecticut, Florida, Georgia, Kentucky, South Carolina, and Washington had significant increases in sites identified as needing attention. Notably, Connecticut and Florida both had increases of about 1,400 sites over 1997 numbers.

While some of the decline in this category from 1997 to 2000 reflects continued progress in accomplishing cleanups, it also reflects reclassification of sites, and a decline in the number of states reporting this information. Notably, New Jersey reported a decline of about 1,000 sites by excluding homeowner tank cleanups from its estimate in 2000. Four states (Kansas, Michigan, West Virginia, and Wisconsin) provided site numbers in 1997 (a total of 4,023 sites) but did not provide site numbers for this report. Two states (Indiana and South Dakota) provided site numbers for this report (a total of 290 sites) but had not provided site numbers in 1997. Counting only the states that reported numbers in both 1997 and 2000, the total number of sites needing attention for 1997 is 20,100 and the total for 2000 is 22,700. After subtracting the 1,000 New Jersey homeowner tank sites from the 1997 number to make it comparable to other states and to New Jersey's figures for 2000, the adjusted 1997 total is 19,100 sites (3,600 less than the 2000 total). Therefore, after factoring in reporting discrepancies, it appears the total universe of sites requiring attention is stable and may even be growing slightly, suggesting that state programs are continuing to mature and identify new sites needing attention.

The third category reflects the number of sites maintained on a state's official *priority list, inventory, or registry.* Approximately 40 states maintain some kind of list, registry, or inventory—usually pursuant to a statutory or regulatory requirement. Although about 15,000 sites are on these lists, state definitions and approaches vary widely so the aggregation of these numbers is not very useful and no direct comparisons between state lists can be made. Many states maintain no formal list or registry; others do, but vary widely in approach. Some lists include all known and suspected sites, while others include only a very small number of sites that have completed a long evaluation process. Still others include only sites where cleanup is funded by states rather than by responsible parties. For example, Florida lists only 46 sites on its registry, but has identified 2,460 sites as needing attention. Conversely, Louisiana's registry lists 730 sites, although only 130 Louisiana sites need attention.

Cleanup Activities

The number of clean up activities at non-NPL sites is reported in Table IV-4. In 2000, cleanups were completed at more than 4,500 sites, bringing the total number of sites completed to roughly 29,000 since the inception of the various states' programs. This is a decrease from the over 41,000 reported in 1997. The reason reported cleanups declined is primarily due to reclassification of cleanups by a handful of states. Notably, in 1997, Texas included emergency response cleanups (such as removals of barrels from roadsides) in its numbers and reported close to 19,000 completed cleanups. In 2000, the state excluded emergency response cleanups and reported only 643 cleanups completed since the start of the state cleanup program. New Jersey also reported a significant decline in this category (11,000, down from 12,600 in 1997) because the state excluded homeowner tank cleanups in 2000. These revisions are in keeping with the methodology of this study, which since 1989 has consistently sought to collect data about cleanups intended to achieve permanent remedies, activities analogous to removal and remedial actions under the federal Superfund program.

The total number of cleanup activities in progress in 2000 was approximately 15,700. Of the 15,700 sites, almost half of the cleanups (7,100) were being implemented in state voluntary cleanup programs (VCPs). Since the start of the VCPs in the various states, approximately 11,600 voluntary cleanups have been completed, including roughly 2,200 sites in 2000. The ratio between numbers of state program cleanups and VCP cleanups has shifted as state VCPs have grown and developed. In 1997, about 40 percent of the total cleanups underway and total cleanups completed in the last fiscal year were voluntary cleanups. In 2000, VCP activity increased and accounted for more than 45 percent of the total cleanups underway and total cleanups completed in the last fiscal year.

D. PROGRAM ORGANIZATION

State hazardous substance programs are generally administered within the state agency that has primary responsibility for environmental matters. In North Dakota, Hawaii, and the District of Columbia, these cleanup programs are contained within the health department. Several states, such as Colorado, Kansas, and South Dakota, have agencies with joint responsibility for health and the environment.

Table IV-5 lists the responsible agencies, the offices administering cleanup programs, and staffing levels, including actual and authorized full time equivalent (FTE) positions for the states. The table also lists the offices providing legal support for the programs, as well as actual legal staffing levels.

Program organization differs greatly between state agencies and therefore it is difficult to generalize about program administration. The discussion below highlights some examples of noteworthy organizational and funding features of the states' hazardous substance cleanup programs. Tables IV-6 and IV-7 also list the funding sources for staff and administrative expenses of the state's cleanup and voluntary programs, as well as percentages of each source.

Cleanup Program Organization

Within the responsible agency, the division that carries out the state's waste programs usually administers the hazardous substance cleanup program. In some cases the division has broader or narrower responsibilities. The hazardous substance cleanup program may, in turn, be housed in a separate office within this division, as is the case in California, Delaware, Indiana, Texas and a number of other states. Some states have integrated cleanup programs while others consider voluntary and brownfield programs to be separate from the state cleanup program. In Arizona, the state program is contained in the agency's Superfund Programs Section, while the voluntary and brownfields program is in the Capacity Development Section.

Staffing Levels

Forty-seven (47) states provided staffing information, with a total of 3,344 FTE staff working within the states' cleanup programs. For most states, this number reflects staff positions dedicated to hazardous substance remediation activities. However, some states' staffing levels, such as North Carolina, North Dakota, and Vermont, include a broader range of related activities, such as RCRA cleanups, LUST and dry cleaner program implementation, and petroleum sites in addition to site remediation.

Staffing levels vary greatly, from 537 FTE positions in New Jersey, to two FTE positions in South Dakota. The following 10 states have more than 100 staff working on cleanup activities: California, Illinois, Massachusetts, Michigan, New Jersey, New York, Pennsylvania, Texas, Washington, and Wisconsin. Five reporting states have 51-100 cleanup staff, while 24 states have 11-50 FTEs. Only six states have 10 or fewer personnel dedicated to cleanup activities.

The total of 3,344 FTE staff positions reported in 2000 represents a decrease of approximately 4 percent from the 3,474 FTE positions reported in 1998. This decrease can be accounted for in a few ways. First, the number of states reporting in 2000 is two fewer than in 1998. Idaho and Kansas, a previous total of 79 FTE positions, did not report data, along with West Virginia, Puerto Rico, and the District of Columbia. Ohio reported the largest decrease in staff numbers, from 150 in 1998 to 15 in 2000. This is likely because the state could only provide data on the staff for the voluntary cleanup program. Other states provided more precise non-NPL site staff numbers in 2000 by deducting staff that work on federal Superfund sites. New Mexico, for example, went from 23.5 FTEs in 1998 to 11

FTEs in 2000. Florida also had a dramatic decrease in staff numbers, from 108 to 71 FTE staff. Several state programs had substantial increases in staff, including Hawaii, North Carolina, Oklahoma, and Wisconsin. Hawaii officials explained that the increase was due to the fact the program had just begun, budget restrictions had been lifted, and many new job titles were added. The total number of state superfund staff has been gradually decreasing since the 1995 peak of 3,585 FTEs. Again, some of this change can be accounted for by variations in how states counted staff. However, over the five-year time period several states have had steady increases such as Arizona, North Carolina, Oklahoma, South Carolina, and Wisconsin; or steady decreases such as Minnesota and Ohio.

Finally, 43 states reported on the number of *authorized* positions in the principal cleanup program office. These states reported 3,589 authorized FTE positions compared with 3,344 actual FTE positions. Only 17 of the reporting states were fully staffed in 2000, compared to 18 fully staffed states in FY98. Six states (Colorado, Louisiana, Montana, New Mexico, Oklahoma, and Tennessee) were more than 20 percent understaffed. The majority of the 245 total vacant positions are from four states with more than 200 staff. However, none of these states were more than 20 percent understaffed.

Legal Support

Within the 46 states that provided current information, approximately 178 attorneys provide the responsible agency with legal support. This number is 28 FTEs fewer than listed in 1998, some of which can be accounted for by the decreased number of reporting states, from 50 to 47. The three states that did not report this year had a total of seven FTE attorneys in 1998. Also, many of these attorneys work on site cleanups as well as other environmental programs, including Resource Conservation Recovery Act (RCRA) sites, leaking underground storage tanks (LUST), and other general environmental cases.

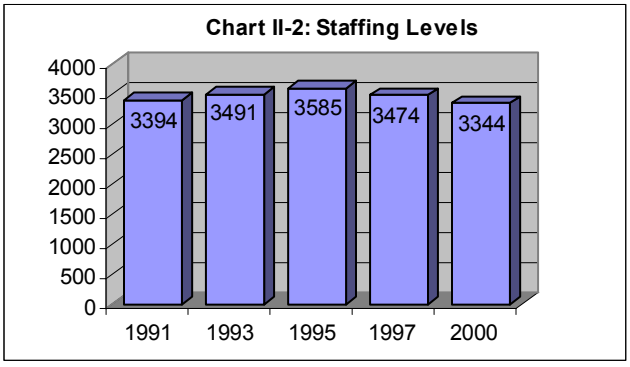
Most states have relatively few attorneys employed to work on cleanup projects. Only five states reported having 10 or more attorneys providing legal support: Colorado (11), Massachusetts (21), New Jersey (18), New York (22) and Pennsylvania (12). The attorneys working on cleanup in these states comprise almost half of the total number of attorneys working for all of the state cleanup agencies. Massachusetts, New Jersey, and Pennsylvania also have some of the greatest numbers of technical staff and cleanups completed. However, Colorado only has 23 FTE staff and 40 cleanups completed. The majority of states have one attorney for every 10-20 FTE technical staff members.

The Office of the Attorney General, or an equivalent office, has sole responsibility of legal support for the environmental agency in 19 states. In 14 states, the state's environmental agency employs attorneys to perform all legal supervision of cleanups. This authority is shared by the state's Attorney General's Office and environmental agency in an additional 14 states.

Funding Sources for Administration and Staff

In all of the 44 states reporting funding information, there are three common sources of funding for the states' hazardous substance cleanup program staff and administrative costs: state cleanup funds, state general funds, and federal grants. Federal grants include primarily the Environmental Protection Agency's core Superfund program grants, site-specific cooperative agreements and multi-site cooperative agreements. Several states have additional sources of funding, primarily reimbursement from potentially responsible parties.

One state, Virginia, completely funds the administrative and staffing costs for its state and voluntary cleanup programs with federal grants. Seven states do not use federal grants and cooperative agreements to fund any part of their cleanup program: Arizona, Delaware, Georgia, Indiana, New Mexico, Pennsylvania, and Wyoming, four of which have programs entirely funded through the state's Cleanup Fund. The remaining states have a combination of funding sources, with federal funding comprising between 2 percent and 90 percent.



E. FUNDS

A state must be able to pay for its activities in cleaning up sites. A readily available source of money is, therefore, an essential element of a state's program to clean up sites. A fund separated from the operating funds of the environmental agency and continuing from year-to-year without the need for annual appropriations or other legislative action allows the agency to avoid disruptions to cleanups. A fund allows a state to investigate, plan, design and conduct emergency response and remedial actions at sites where immediate action is required or where RPs are unavailable, unable, or unwilling to conduct or pay for remedial actions. At least some of these expenditures can be replaced through cost recovery actions against RPs that initially did not pay for the cleanup. But money spent at orphan sites, where no RPs can be found, cannot be replenished through cost recovery and must be replenished from other sources. A state may also incur certain expenses that it is not authorized to recover from RPs, including some administrative costs.

A fund also allows a state to control the pace of cleanups; if RPs do not agree to conduct the cleanup, the state will be able to use its own funds to clean up the site without delay. Beyond recovering its costs, the state may be authorized to seek punitive damages from the RPs that refused to conduct or pay for the cleanup. *(See H. Enforcement, Enforcement Tools, below.*) Having enough money available to pay for cleanup activities when they become necessary allows a state to maintain control over the timing of cleanups. Money should also be available to pay for responses to emergencies and for unexpected expenses, such as for activities at sites where anticipated agreements with RPs are not reached. To be most effective, a fund needs to be large enough to cover these contingencies, including potentially paying for the entire cost of one or more site cleanups. The amount of money necessary to meet these contingencies will depend on the number and characteristics of a state's sites, but will also depend on the risk that RPs and the state will not reach agreement on sites for which the state expects RPs to pay. A fund of adequate size allows a state to control which sites and risks it responds to and how and when that response occurs.

A state fund can also be a significant contributor to a state's cleanup enforcement program. If the state can clean up a site with state funds and promptly recover its costs, then RPs may decide that it is in their interests to agree to conduct future cleanups. States that have demonstrated this ability have been able to reach agreements with RPs.

The amount of money needed to make such action credible obviously depends on the number of sites and types and expense of cleanup actions needed in the state. The experience of some states indicates that completing a remedial action at a single site is likely to cost more than $1M. Thus, for many states, particularly those with multiple sites needing permanent remedies, a fund of more than one million dollars would be needed to preserve the option for conducting a state-funded remedial action at a site while maintaining the ability to respond to emergencies. Some states have considerably less than a million dollars available, which restricts their response capability. Typically they have only been able to pay for emergency responses or relatively simple cleanups.

Forty-nine (49) states, including Puerto Rico, have established cleanup funds or provided a mechanism for the state agency to pay for one or more types of cleanup activities at non-NPL sites. Only Idaho, Nebraska, and the District of Columbia have no authorized cleanup fund. The District of Columbia created the Clean Land Fund in 2001, and authorized it to be used to pay for administering the District's new voluntary cleanup program and for brownfields incentives. The District's Clean Land Fund may not, however, be used to pay for cleanups. Table IV-2 lists the statutes that authorize cleanup funds in each state.

Table IV-8 lists the states' funds, their balances as of the end of the state's 2000 fiscal year (June 30, 2000, for most states), the amount of money added to the funds during the 2000 fiscal year, the amount of money spent from the funds during the fiscal year, and the amount of money obligated for future work. Not all state cleanup funds or funding mechanisms are listed in Table IV-8. Funding instruments that are used solely as repositories for federal monies or are available only for cleanup of leaking underground storage tanks have been excluded. Also excluded are funds that may be used solely to clean up spills of oil or petroleum products.

Thirty-six (36) states have more than one fund for cleaning up sites contaminated by hazardous substances, resulting in a total of 117 state cleanup funds. The number of states with multiple funds continues to increase, with Alabama, Massachusetts, South Dakota, and West Virginia joining the list in 2000. In 1997, there were 33 states with more than one fund, 21 in 1995, and only 15 in 1989. In addition, several states have added to their array of separately administered funds. These include Arizona (but it also reported that what had previously been reported as

two funds should be counted as only one); California; Michigan; Mississippi, with three new funds (it also dropped one); Montana; South Carolina; and Wisconsin, with two new funds.

States have more than one fund for a variety of reasons. A state may have multiple funds to differentiate sources or uses of the funds. One fund may receive all the proceeds from a hazardous waste fee, while another is the repository for other authorized types of funding, typically appropriations, penalties, and cost recoveries. For example, Arkansas' Hazardous Substances Remedial Action Trust Fund receives most of its funding from fees on hazardous waste generators, while its Emergency Response Fund is funded by civil penalties (the ERF is capped at $150K and excess penalties are deposited in the Remedial Action Trust Fund). When a state authorizes bonds to be issued to pay for cleanups, it typically creates a separate fund whose sole source of money is bonds. New Jersey, for example, has three separate bond funds among its seven funds, while New York and Michigan have two.

States also may have multiple funds because they separate the uses to which their funds may be put. Thus Ohio has a Hazardous Waste Facility Management Fund that may be used for emergency response, administrative costs, and the state's share of NPL remedial actions (CERCLA match), in addition to its primary RCRA-related purposes. Ohio also has a Hazardous Waste Cleanup Fund that may be used for other non-NPL related cleanup activities, a Voluntary Action Program Administration Fund to be used as its name indicates, and a Clean Ohio Revitalization Fund (added in 2001) to provide loans and grants for brownfields cleanup.

All of the states that went from single to multiple cleanup funds created funds dedicated to specific types of cleanups. Massachusetts and West Virginia added separate brownfields funds, while Alabama added a drycleaner fund and South Dakota added one for livestock cleanups. This continues a trend that has been occurring at least since 1995, states creating funds to pay for specific types of cleanups. Eight states (Arizona, the District of Columbia, Maryland, Mississippi, Missouri, Ohio, Utah, and Virginia) have created funds specifically devoted to their voluntary cleanup programs since 1995. This does not mean that other states have ignored funding for their VCPs, as most are funded through fees paid by participants. *(See section I. Voluntary Cleanup Programs,below.)* In addition, since 1995, six states have created new funds focused on their brownfields programs: the District of Columbia (Clean Lands Fund, covers the VCP also), Maryland, Massachusetts, Mississippi, New York, and West Virginia. In 1997, Hawaii also reported two separate funds for its VCP and for its brownfields program, but for 2000 it reported these as a single separate account within its Environmental Response Revolving Fund. Some states also have established special funds dedicated to dry cleaning sites. Kansas had such a fund in 1995, and Alabama, Illinois, Oregon, South Carolina, Tennessee, and Wisconsin have created such funds since then. Arizona returned to reporting its Water Quality Assurance Revolving Fund as a single fund, as it had since 1989.

The states vary considerably in their funding sources and authorized uses of funds. Sources of funding for state cleanup programs are listed in Table IV-10. These funding sources include appropriations (A in the Table), bonds (B), waste fees (WF), taxes (TX), interest (I), penalties (PE), transfers from other state funds (TR), cost recovery (CR), private funds (PF), user fees (for voluntary cleanup programs)(UF), and other (O). The activities for which a state is authorized to use a fund are listed in Table IV-11. Authorized uses include: site investigation (SI); emergency response (ER); removals (RM); CERCLA match (CM); studies and design (SD); remedial actions (RA); operations and maintenance (OM); grants to local governments (GLG); natural resource restoration (NRR); program administration (PA); victim compensation (VC); and other (O).

A key issue for state and federal policymakers is the extent of the states' capabilities to clean up non-NPL (and potentially NPL, or NPL-caliber) sites. The states have identified approximately 22,000 sites as needing some type of cleanup. *(See Section C. Hazardous Substances Sites, above.)* The states will rely on RPs and volunteers to perform or pay for the cleanups of most of these sites, yet the risks at some sites will be addressed only if the state conducts and finances the cleanup itself. A state's capability to perform cleanups is determined by many factors, including staffing, expertise, experience, funding, and expenses. This section discusses the financial measures of state capabilities.

Fund Balances and Additions

Analysis of fund balances at the end of a state's fiscal year (2000 in this Update) and the amount of money added to the fund during the past fiscal year is intended to provide a sense of the state's capability to pay for cleanups in the near future. The fund balance is a measure of the current availability of funds for new work. This is supplemented by fund additions, which serve as a measure of the state's immediate past capability to sustain the fund and is intended

to provide a sense of the state's potential to maintain and increase the fund in the future. Both measures are flawed and, even considered together, do not necessarily provide a complete or accurate sense of state financial capabilities to pay for future cleanups. This is particularly true if comparisons are made among the states. Some of the issues are:

1) Fiscal year-end balances could not be obtained for all funds or all states—Arkansas, the District of Columbia, Kansas, Nevada, Ohio, Puerto Rico, Rhode Island, West Virginia, and Wyoming (9 states)—provided no fund balance information at all; and Alabama, Arizona, Illinois, Maryland, Massachusetts, Mississippi, Missouri, Montana, Utah, and Virginia (10 states) did not provide a balance for one or more of their multiple funds.
2) Fund balances may be artificially low because of infrequent collection of fees or taxes, timing of appropriations (some states use biennial budget and appropriation cycles), or a program's need to exhaust its fund at the end of the fiscal year because carryover is not allowed.
3) Some states continue to rely on site-specific appropriations for remedial actions, despite the existence of a cleanup fund. In that case the state's ability to pay for cleanups may be less predictable.
4) A portion of a state's fund balance may be obligated for future work on sites in the system and thus all of the fund balance will not be available for work on new sites. ELI attempted to mitigate this difficulty by asking states how much money was obligated for future work. This information is included in Tables IV-8 and IV-9.

With these caveats, the total of the balances, including bond authorizations, for all the states' funds in 2000 was $1.24B. This balance is $178M (12.6 percent) less than the 1997 balance of $1.41B. However, five states reported balances in 1997, totaling $41.8M, that did not report balances in 2000. Comparing only the states that reported balances in 1997 and 2000, the decrease would be about 10 percent. Fund balances have been declining since 1990. The progression of fund balances, including bond authorizations, is shown in Chart II-3.

As has been the case in prior years, a significant portion of the aggregate fund balance is attributable to large bond authorizations in just a few states. But, in 2000 the bond authorizations fell below 50 percent of the aggregate fund balance for the first time since ELI began conducting these studies in 1989. Nine states (California, Connecticut, Maine, Massachusetts, Michigan, New Jersey, New York, Oregon, and Wisconsin) had a total of $488.7M in bonds available, which was about 40 percent of the $1.24B aggregate balance available in the 42 states reporting balances for FY 2000. The total of available bonds has decreased by almost 43 percent since 1997, when the same nine states reported bond authorizations totaling $853.4M. New York's current bonding authority of $205.7M is about one third of the $601M available to it in 1997.

The decrease in bond authorizations resumed a trend of declining bond totals that paused between 1995 and 1997 (see Charts III-3 and III-4 for the aggregate state fund balances including and excluding bond authorizations since 1989). The 2000 total of $488.7M compares with bond authorizations totaling $853.4M in 1997, $873.6M in 1995, $967.2M in 1993, $1614.8M in 1991, $1729.2M in 1990, and $1981M in 1989. Most of this decline is due to the fact that the states have been issuing the bonds and spending the proceeds on cleanups, as was intended. New York, New Jersey, and Michigan have each issued hundreds of millions of dollars of bonds and spent the money on cleanups since 1989. All of the states that have had bond authorizations in the past, including Connecticut, Maine, Maryland, Massachusetts, Michigan, Montana, New Hampshire, New Jersey, New York, Oregon, Rhode Island, and Wisconsin, appear to have spent virtually all of their initial bond authorizations. New York has spent all but $23.1M of the $1.2B in bonds authorized in its 1986 Environmental Quality Bond Act.

Although New York's bond fund was not depleted by the end of FY97, as had been predicted by its staff in 1995, in 1996 the legislature authorized $200M in new bonds, which by 2000 the state had begun to spend. The legislatures in Massachusetts and New Jersey also authorized substantial amounts of bonds in 1996, which those states continue to spend. Connecticut and Michigan have authorized new bonds since 1997. In addition, in 2001 Ohio authorized a new Clean Ohio Revitalization Fund with $200 million in bonding authority, which is not included in Table IV-8 or in the above totals because it did not exist in fiscal year 2000. Unlike other states' bond funds, it does not provide money for the state to conduct cleanups, but is limited to assisting private parties by providing loans and grants for cleaning up brownfields.

The large number of states (9) that did not report fund balances makes comparisons with prior years difficult. One notable development in 2000 was that eight states had balances of $50 million or more, the largest number of states at that level since ELI began collecting this information in 1989, and almost half the states have at least $10M

available. Six states reported balances of less than $1M (excluding Idaho, Nebraska, and the District of Columbia, which have no cleanup funds) compared with ten in 1997 (but two of the non-reporting states were in this category in 1997). Missouri, which had reported a deficit of $1.3M in 1997— first—moved into the next category with a balance of $2.9M. The number of states with balances below $1M had been declining, from 13 in 1991 to nine in 1993 to six in 1995. Eight (8) states had balances from $1M up to $5M (down from 14 in 1997, 21 in 1995, 15 in 1993 and 14 in 1991), three states had balances from $5M to $10M (compared to 6 in 1997, 8 in 1995, 11 in 1993, and 5 in 1991), 15 states had balances from $10M to $50M (compared to 11 in 1997, 8 in 1995, 12 in 1993 and 14 in 1991), and eight states had balances of $50M or more (compared to 6 in 1997, 7 in 1995, 3 in 1993, and 4 in 1991).

The total amount of money in fund balances continues to be concentrated in a few states. The eight states with fund balances (including bonds) exceeding $50M had $909M, which was 73.5 percent of the aggregate balance of state funds. This is comparable to the share held by the same category in prior years: 76.4 percent of the total in six states in 1997, 80.4 percent of the total balance in seven states in 1995, 74 percent of the total balance in three states in 1993, and 84 percent in 1991. Moreover, the 23 states with fund balances of at least $10M had $1193.9M, or almost 97 percent of the aggregate for all states. This is slightly more than the 94 percent of the total held by 17 states with balances greater than $10M in 1995, and little changed from prior years: 93 percent in 1995 and 1993, 96 percent in 1991, 97 percent in 1990, and 96 percent in 1989. However, the number of states with fund balances of $10M or more has doubled since 1989 when 11 states had that much money available.

Contributions to state funds have varied widely since the first 50-state Study in 1989. In fiscal year 2000, 38 states reported adding $436.2M to their funds (of 49 with funds). This compares with $538.3M added by 45 states in 1997 (of 50 with funds), $444.6M added by 46 states during fiscal year 1995, and $957.3M added to the cleanup funds in 46 states during fiscal year 1993. Because substantially fewer states reported additions to their funds in 2000 than in prior years, the total contributions for 2000 cannot be directly compared with the prior years (although the five states that did not report additions in 1997 also did not provide an amount in 2000). In addition, although California has not reported additions in 2000, 1997, or 1995, it added $107M to its Hazardous Waste Control Account in 1993, and in 1991 it added $50M to that account. The states that reported additions in 1997 but not in 2000 reported additions of $49.5M in 1997.

As with fund balances, only a few states account for much of the amounts added to state funds, with three adding more than $50M in 2000, compared with three in 1997, four in 1995, five in 1993 and one in 1991. The additions in these three states (New Jersey, New York, and Washington) totaled $168.7M, which was 40.7 percent of the total added to state funds by all states. In 1997, the three states in this category (New Jersey, New York, and Pennsylvania) added $239.4M (43.7 percent of all additions) and in 1995 four states added $229.3M to their funds, which constituted 51.6 percent of the total added by all states. On the other hand, nine states reported additions to their funds in the range from $10M to $50M in 2000, totaling $186M (44.8 percent of total additions). At the other end of the scale, only six states reported adding less than $1M to their funds in 2000, reversing an upward trend in this category from 18 in 1997, 14 in 1995, 10 in 1993 and nine in 1991, although seven of the non-reporting states in 2000 were in this category in 1997.

As might be expected, many of the states that add the largest amounts to their funds also have the largest balances. Six states (Alaska, Michigan, New Jersey, New York, Pennsylvania, and Texas) are in the top 10 of both additions to funds and fund balances. In contrast to 1997, none of the states that reported both fund balances and additions were at opposite ends of the spectrum on those two measures. For example, in 1997, Georgia reported a fund balance of $1.1M, while $19.1M was added to its fund during the year. The fact that Georgia spent $17.6M in 1997 and obligated another $13.8M suggested that Georgia was essentially funding its activities on an annual basis. In 2000, Georgia's balance was $12.8M and it added the same amount to the fund during the fiscal year while it spent $10.5M and obligated $1.7M.

Fund Expenditures

The amount of money spent by states on cleanups in the past year is another indicator of the financial capabilities of states to clean up sites contaminated with hazardous substances. State expenditures reflect the state's cleanup capability for the past year and may be a good indicator of future capabilities if the state is maintaining a stable cleanup program. Tables V-8 and V-9 report states' expenditures and obligations from FY00.

States were asked to separate expenditures, *i.e.*, money actually spent during the year, from obligations, *i.e.*, money committed to a specific project or task and thus not available for spending, but not yet spent. States also were asked to categorize their expenditures and obligations by whether they were for NPL or non-NPL sites.

Most states were able to separate their expenditures from the amounts they obligated, although some states could provide no information for one or more of the categories of information. The same nine states that did not provide fund balances provided no information on expenditures or obligations. In addition, California and North Dakota provided no data about expenditures or obligations, although they did provide fund balances. Alabama, Massachusetts, Minnesota, and Oregon provided no information about obligations, but supplied information about expenditures, while Connecticut (as has been the case since 1995, when this distinction was first made) provided no information about expenditures, but supplied information about obligations.

Most states that reported expenditures also were able to separate the amounts they spent or obligated on non-NPL sites from the amounts committed to NPL sites. Unfortunately, the information provided for these sub-categories is much less complete than for total expenditures. Several states that each spent tens of millions of dollars on cleanups did not disaggregate the amounts spent on non-NPL and NPL sites. These included New York (four funds that together spent $122.1M), New Jersey (seven funds from which a total of $25.1M was spent), Pennsylvania (reporting spending $39M from one of its three funds), and Tennessee (two funds from which $11.3M was spent). In addition, California and Ohio, each of which has reported spending more than $10M in a year in the past, did not provide any information about spending.

In 2000, 38 states reported spending a total of $505.6M on non-NPL *and* NPL sites and 35 states reported obligating an additional $564.4M to be spent in the future. Some states, however, did not report data for all of their funds, so these totals likely understate the amounts spent and obligated even for the reporting states. Twenty-five (25) of these states reported spending $208.7M, and 24 reported obligating $229.7M, on non-NPL sites. Twenty-four (24) states reported spending $37.1M, and 21 states reported obligating $66.3M, on NPL sites, although one third reported spending $0 on NPL sites.

In comparison, in 1997, 44 states reported spending a total of $565.1M and 39 states reported obligating $448M. Thirty-one (31) states also reported spending $136.5M on non-NPL sites and 30 states reported spending $32M on NPL sites in 1997, with 14 of the latter spending $0 on NPL sites. As in 2000, some states did not report data for all their funds or for all categories of spending in 1997. In 1995, 44 states reported spending a total of $386.1M and 38 states reported obligating $363.4M. In addition, 37 states reported expenditures of $203M on non-NPL sites and 32 states reported spending $19.6M on NPL sites (12 states spent $0). Even with the limitations in the data, it appears that, at least since 1995, states have been spending substantially more on their non-NPL sites than on NPL sites.

The total spending reported in 2000 was $59.5M less than the 1997 total but $119.5M more than the 1995 total (with six fewer states reporting in 2000 than in 1997 or 1995). Of the 36 states reporting expenditures in both 1997 and 2000, 24 states reported increases, while 12 states reported decreases. In 2000, only two states, Arizona and Massachusetts, reported spending more than $10M more than they had spent in 1997, compared to 1997 when six states exceeded their 1995 spending by more than $10M. Massachusetts spent $7.1M in 1997 and $35.9M in 2000; Arizona spent $4.5M in 1997 and $15.3 in 2000. Conversely, in 2000, six states reduced their spending by more than $10M in 2000 than in 1997, compared to only two in that category between 1995 and 1997. Specifically, Alaska, Florida, New Jersey, New York, and Texas reported substantially higher spending in 1997 than in 1995, but returned to the 1995 spending levels in 2000, while Washington's spending continued a downward trend since 1995. Alaska spent $12.9M in 1995, $20.8M in 1997, and $7.7M in 2000; Florida spent $3.2M in 1995, $22.2M in 1997, and $4.3M in 2000; New Jersey spent $37.6M in 1995, $81.3M in 1997, and only 25.1M in 2000; New York spent $129.4M in 1995, $158.8M in 1997, and $122.1M in 2000; Texas spent $28.6 in 1995, $41.2M in 1997, and $24M in 2000; and Washington spent $52.9M in 1995, $42.7M in 1997, and $28.7M in 2000.

The total obligated by the states in fiscal year 2000 (35 states reporting) was $116.4M more than in fiscal year 1997 (39 states reporting), a 26 percent increase. The amount obligated in 1997 was $84.6M (23.3 percent) more than was obligated in 1995. Of the 29 states reporting obligations in both 1997 and 2000, 16 states reported increases while 10 states reported decreases and three states reported obligating the same amount in both years. Four (4) states (Indiana, Michigan, New Jersey, and Washington) noted increases in obligations of more than $10M, while 3 states (Connecticut, Georgia, and New York) reported decreases in obligations of more than $10M. Connecticut

($4M obligated in 2000 compared to $31.8M in 1997 and $18M in 1995), Michigan ($83.9M obligated in 2000 compared to $12.7M in 1997 and $50.5M in 1995), and Washington ($38M obligated in 2000 compared to $7.9M in 1997 and $18.1M in 1995) have each reported large increases and decreases in obligations in the fiscal years covered by the most recent three 50-State Studies. New Jersey, on the other hand, has reported large increases in obligations for those years ($127.7 in 2000 compared to $98M in 1997 and $62.5M in 1995). Pennsylvania ($43.3M in 1997 compared to $23M in 1995), South Carolina ($20.8M in 1997 compared to $700K in 1995), and Texas ($27M in 1997 compared to $0 in 1995). Conversely, the reported obligations by New York have decreased by large amounts in those years ($47.1M in 2000 compared to $95.3M in 1997 and $123.5M in 1995).

Half of the states (19 of 38) reported spending less than $5M on all sites in 2000, a reduction from 27 of 44 states reporting spending less than $5M in 1997. Similarly, the number of states that spent less than $1M dropped to seven in 2000 from 17 in 1997. At the high end, only New York spent more than $50M, actually spending over $100M, as it did in 1995 and 1997.

Similarly, slightly more than half of the states (18 of 35 states reporting) obligated less than $5M on all sites in 2000, with 11 states obligating less than $1M. Michigan, New Jersey, and Pennsylvania obligated more than $50M.

The reported spending on non-NPL sites increased by almost 53 percent from $136.5M in 1997 to $208.7M in 2000, with six fewer states reporting. This is also higher than the non-NPL spending reported in 1995 ($203M) and 1993 ($149M). Beyond that, Arizona, Illinois, and Massachusetts reported significant increases in non-NPL spending, while Washington reported significant reductions. Several states that have reported spending more than $10M on non-NPL sites in past years, including California, New Jersey, New York, and Pennsylvania, did not provide information about spending on non-NPL sites for FY00.

As is the case with fund balances, the majority of the total spent by the 25 states that reported expenditures on non-NPL sites is accounted for by a few states. Four (4) states account for 54 percent ($112.4M) of the total reported spent by the states on non-NPL sites in 2000; Massachusetts spent $22.9M on non-NPL sites, Michigan spent $40.8M, Texas spent $20.5M, and Washington spent $28.2M. At the other end of the scale, seven states reported spending less than $1M on non-NPL sites.

The amount that states reported they had obligated at non-NPL sites increased 70 percent to $229.7M in 2000 from $135M in 1997, following a 65.8 percent from $81.4M in 1995. However, the increase is largely due to states reporting obligations at non-NPL sites in 2000 that did not report such information for 1997.

The combination of fund balances, additions to funds, and expenditures can provide the most accurate indicator of the capability and stability of a state cleanup program. For example, Delaware's balance has steadily risen from $3.7M in 1995 to $8.4M in 1997 to $13M in 2000 as its additions either matched its expenditures plus obligations, as was the case in 2000, or exceeded them, as occurred in 1997. In 2000, Pennsylvania added $43M to its Hazardous Sites Cleanup Fund (HSCF), which exceeded the $39M it spent, but which for the first time reported in this series of 50-State Studies did not exceed the combined total of expenditures and obligations ($70M). Not surprisingly, the balance in the HSCF ($98M) declined slightly from the balance in 1997 ($105M). Although the state may not have added to the balance as it had in the past, the years of adding more money than was spent or obligated left Pennsylvania with a fund that was sufficient to cover the current spending levels for more than two years even without further additions.

When expenditures exceed additions by a significant amount, the size of the fund balance is critical to maintaining the state's ability to continue the same level of activity. Several states fund their programs using relatively large amounts in authorized bonds. Massachusetts, for example, authorized an $89M bond in the late 1980s to fund its program. Over the years, the state added no money to the bond fund so the balance declined steadily to $2.5M in 1995. A $100M bond reauthorization in 1996 allowed the state to continue its relatively steady spending and even to double its past average in 2000 ($10M in 1993 compared to $9.5M in 1995 $7.1M in 1997 and $17.4M in 2000). California has not authorized any additional bonds as the balance in its bond fund finally reached zero in 2000 following steady decreases from $12.9M in 1993, to $3.4M in 1995, $2.4M in 1997, and $0 in 2000. The effect on expenditures and obligations is not clear because the state did not report such information in 1993 or 2000, but it reported expenditures of $3M in 1995 and obligations of only $228K in 1997. In 1986, New York authorized $1.2 billion in bonds, by far the largest single source of funding for any state, and managed it so that it still had a balance of $23 million at the end of 2000. The state legislature authorized additional bonds in 1996 and it has continued to consider authorizing additional bonds in more recent years.

Sources of Funds

Table IV-10 indicates the sources of funding for state funds and classifies each source as a significant (contributing more than 20 percent of the Fund's revenues) or minor source. The classification of a source as significant is not an indication of the actual amount of money provided by a source because significance is defined in relation to the amount of a fund's revenues. Ten (10) specific types of sources are listed, including appropriations from the legislature, bonds, fees charged for hazardous waste or other activities, taxes, interest on fund or other state investments, penalties or fines, transfers from other funds or accounts, cost recovery, private funds, and user fees (for voluntary cleanup programs), plus a final category for other sources. States did not notably prefer one method of funding over the others in 2000. In fact, the funds were broadly and evenly distributed across the 10 specific sources, with seven of the 10 sources providing significant (>20 percent) funding for more than 10 funds. Appropriations were a significant source for 28 funds, waste fees were a significant source for 24 funds; taxes were a significant source for 19 funds, while cost recovery was a significant source for 19 funds. Bonds provided significant funding for 14 funds and user fees were a significant source for 13 funds.

One hundred-seventeen (117) funds exist in 50 states and the District of Columbia and Puerto Rico. This number, however, does not include funds that receive only federal monies or funds restricted solely to cleaning up contamination from leaking underground storage tanks or funds limited solely to cleaning up contamination from petroleum or its products. The number of funds continues to increase. States reported having 105 funds in 1997 and only 66 funds in 1989.

Appropriations are the most widely employed as a primary source of funding for state cleanup funds. They provide more than 20 percent of the funds for 28 funds in 20 states, compared to 17 funds in 14 states in 1997, 13 funds in 13 states in 1995, and 21 funds in 17 states in 1993. The increase in the use of appropriations as a primary funding source can be explained in part by the fact that six of the 18 new funds have appropriations as their primary source of funding. Also, some of the fund balances where appropriations have become a major source of funding were smaller in FY00 than in previous years, thus raising the relative contribution of appropriations. Appropriations are also a minor source of funding in an additional seven states, one fewer than 1997, as Wisconsin's Environmental Fund went from employing appropriations as a minor source to a major source of funding. Some states appropriate money to their cleanup funds on a regular basis, which allows the state agency flexibility in handling cleanups. In other states, such as Kansas, appropriations for state-funded cleanups must be requested on a site-specific basis. Appropriations are also, naturally, subject to the vagaries of state revenues and politics, reducing their reliability as a continuing source of funds. Even for states where appropriations provide a significant proportion (>20%) of the public funding for cleanups, the high percentage may represent a relatively small amount of money because the fund is small or the additions to it are small. Michigan was a notable exception, where appropriations were the primary source of $12.6M added to the General Fund in 2000. Other exceptions are the Local and State Toxics Control Accounts in Washington, where appropriations were a major source for the $15.1M and $22M respectively added in FY00. However, the appropriations for these funds differ from those of most states in that these funds are financed primarily by taxes and the appropriations come from the dedicated taxes.

Fees on the generation, transport, treatment, or disposal of hazardous waste, hazardous substances, or solid waste are an important source of revenue for many state cleanup funds. Twenty-four (24) funds in 21 states rely on such fees to contribute more than 20 percent of the revenues for their funds. This compares to 20 funds in 19 states having fees as a significant contribution to their funds in 1997 and 24 funds in 23 states in 1995. In addition, waste fees provide minor support, less than 20 percent of total additions to the fund, to funds in five states.

Because hazardous waste fees are a substantial source of funding for state cleanups, it is important to note that state legislatures often attach limits or conditions on the collection and use of such fees. Iowa and Kentucky both suspend fee collection if the fund balance exceeds $6M and resume collection if the fund balance falls below $3M. West Virginia does the same, but the cut-off fund balance is much lower, at $1.5M, and the range is narrower, since fee collection resumes when the balance drops to $1M. The Tennessee legislature imposed even more restrictions on collection of its fees, requiring annual adjustments to maintain a fund balance of $3-5M in unobligated funds and limiting the amount of fees collected annually to $1M (estimated). Moreover, the fees are abrogated if the legislature fails to appropriate matching funds. Beyond these administrative limits imposed on fees, these revenues may also fluctuate due to changes in waste handling.

Taxes are a significant source of revenue for 19 funds in 15 states, one more state but the same number of funds as in 1997, and also similar, 17 funds in 15 states, to 1995. Taxes are also a minor source of funding for four funds. Several states impose a tax on hazardous wastes or substances that is similar in nature to the fees charged for hazardous waste activities and, in fact, there may be no practical distinction at all. Restrictions similar to the ones imposed on fees are sometimes placed on waste taxes. For example, Florida's tax on pollutants is suspended if the Water Quality Assurance Trust Fund balance exceeds $12M and is reinstated if the balance falls below $5M. Taxes have the potential for raising substantial amounts of money, but may be politically difficult to impose or to increase if revenues do not meet the need. Taxes on hazardous substances are the primary source of revenue for New Jersey's Spill Compensation Fund (transfer tax) and for Kansas' Drycleaning Trust Fund. A corporate business tax is the sole source for another of New Jersey's many funds.

Bonds provide significant funding for 14 funds in 10 states, similar to 14 funds in nine states in 1997 and 16 funds in 12 states in 1995. More significant than the number of states or funds that rely on bonds for a substantial percentage of their revenues is that bonds can provide much larger amounts of money than the other methods of funding. This is likely why few states, two in 2000, reported that bonds are minor sources for their funds. In 1986, the New York legislature authorized the state to sell $1.2B in bonds to pay for cleaning up contaminated sites, $100M of which was later redirected to cleaning up nonhazardous waste landfills. In 1996, New York authorized an additional $200M in bonds to be used for cleaning up brownfields sites. Although New York's bonding authority is by far the largest, a number of other states also receive large amounts from the sale of bonds. In July of 2001, the Ohio legislature authorized $200M in bonds to create the Clean Ohio Revitalization Fund for brownfields cleanup in the state. In 2000, New Jersey had four bond funds (one dating back to 1981) that contained $79.2M. Over the years New Jersey has generated hundreds of millions of dollars for its cleanup program from the sale of bonds, adding $239.5M to its Bond Fund in 1993, for example.

The drawback of bonds is that they require legislative authorization, which can be difficult to obtain. Thus, some states have exhausted their authority to issue bonds and must look for other sources of revenue for the future. Ohio's authorization of $200M in bonds in 2001 and Michigan's new bonding authority in 1999 were the only new bond authorizations by state legislatures since 1997.

Penalties and fines provide more than 20 percent of the revenue for eight funds in seven states, a reduction from 11 funds in 10 states in 1997, and 16 funds in 14 states in 1995. Many of the funds for which penalties are a significant source are, however, quite small. Penalties, in fact, rarely provide revenues of the magnitude needed to conduct remedial actions (*i.e.*, on the order of $1M). Penalties, therefore, are used by many states as a supplementary rather than a primary source of funding. Thus they are minor (< 20 percent) sources of funding for an additional 24 Funds.

Uses of Funds

Table IV-11 lists the activities on which states are authorized to spend fund monies. These activities are grouped into twelve categories: site investigation (SI), emergency response (ER), removals (RM), studies and design (SD), remedial actions (RA), operations and maintenance (O&M), natural resource restoration (NRR), CERCLA matching cost share for NPL sites (CM), program administration (PA), grants to local governments (GLG), victim compensation (VC), long-term stewardship (LTS) (a new category in this update), and other (O).

Emergency response and removals continue to be the most widely authorized uses of states' funds. It is not surprising that nearly every state is authorized to pay for these activities since they are among the least expensive and most cost effective in reducing risks at a site. Among the states that have funds, only Colorado, the District of Columbia, and Idaho are not authorized to pay for emergency responses out of any fund, and only Colorado, the District of Columbia, Idaho, Oklahoma, Puerto Rico, and Wyoming may not pay for removals.

The vast majority of states (44) also may use their Funds to pay for remedial actions, or more permanent cleanups. Only the District of Columbia, Oklahoma, New Mexico, Puerto Rico, Utah, West Virginia, and Wyoming may not use the money to pay for remedial actions.

Most states also may use their Funds to pay for other activities that support the primary functions of emergency response and short- and long-term cleanup. These include site investigation (47 states, 1 more than 1997 and 4 more than 1995); studies and design (45 states, 1 more than 1997 and 3 more than 1995); operations and maintenance

(44 states, the same as 1997 and 3 more than 1995); and program administration (43 states, 1 fewer than 1997 and 3 more than 1995). Most states (45, 1 more than 1997 and 2 more than 1995) also are authorized to use their Funds to pay the required state share of remedial actions at NPL sites (CERCLA match). The additions to states' authorized use of funds can be attributed to the District of Columbia creating its first fund, which is authorized for site investigations, operations and maintenance, and program administration, as well as the brownfields amendment to Colorado's Hazardous Substances Response Fund, which authorizes expenditures for site investigation.

Other fund uses are far less common. Twenty-one (21) states may use at least one of their Funds to pay for restoration of natural resources damaged by releases of hazardous substances, the same number as reported authority to do so in 1997. This does not, however, indicate that other states are not authorized to restore natural resources. A number of states do so under other programs, or by using authority under CERCLA. Twenty (20) states have at least one Fund that provides the authority to pay for long-term stewardship activities. Twenty states also are allowed to give grants to local governments from at least one of their funds. Only eight states, Connecticut, Louisiana, Minnesota, New Hampshire, New Jersey, Rhode Island, Vermont, and Wisconsin, reported being authorized to use their Funds to compensate victims harmed by releases of hazardous substances.

The primary purpose of some state's funds is not the cleanup of sites contaminated by hazardous substances. Ohio's Hazardous Waste Facility Management Fund, for example, is primarily used to pay for the agency's hazardous waste management activities, including responding to emergencies involving hazardous wastes. Other funds are extremely limited in their uses at contaminated sites. Colorado's Hazardous Substances Response Fund is primarily intended for CERCLA match, with only 5 percent allowed to be spent on program administration and grants to local governments. Other states also have funds intended primarily for CERCLA match, but they generally have other funds that may be used for a wider variety of activities on non-NPL sites. Colorado's only other fund, however, is the Natural Resource Damage Recovery Fund, which may be used only for restoration of natural resources when sites are near completion.

Pennsylvania's Hazardous Sites Cleanup Fund is used for a broad range of activities that go beyond the scope of a typical site cleanup program. The Fund may be used to encourage recycling activities through a grant program for which $2M has been set aside. A small loan fund has been established to facilitate private party cleanups, and the state may also provide loans or grants as inducements and compensation to municipalities where hazardous waste facilities will be located. Oregon has established a more extensive loan program for RPs who need financing in order to undertake cleanup activities. The RPs and the Department of Environmental Quality negotiate the interest and other terms of the loan. Similarly, Washington's state Toxics Control Account funds a number of activities in addition to cleanup of contaminated sites, including hazardous and solid waste planning, management, regulation, enforcement, technical assistance, and public education.

Some states with funds that may be used for cleanup activities are limited in practice by low funding levels. North Dakota cannot pay for substantial cleanups because the year end balance in its fund has been consistently under $200K ($163K at the end of FY00) and additions to it in past years were less than $100K (North Dakota provided no information about additions in 2000). North Dakota did not provide information about its sites for FY00 or FY97. Such small amounts of money restrict a state agency to small-scale actions, such as emergency removals of drums.

Special Conditions on Fund Use

Restrictions and preconditions on fund use are primarily of two types: those that statutorily require the state to exhaust every funding alternative, whether federal or private party, before drawing upon state cleanup monies, and those that require the state cleanup agency to obtain specific authorization before undertaking any response action. In Alabama, sites receiving funds must not be on the NPL at the time activity starts; and in several other states, state funds may be used only where federal funds are not available or sufficient. Virtually all states pursue RP participation first as a matter of practice and policy. Although it appears that only a relatively small number of states are required to seek alternative funding sources before using state monies, it is probably safe to assume that many more do so as a matter of policy.

Six states require that the state agency responsible for cleanup obtain prior approval from some administrative authority before undertaking one or more types of response or remedial action at hazardous waste sites. All expendi-

tures must be approved by the Governor in New Hampshire, the Pollution Control Board in Minnesota, the Environmental Quality Council in Wyoming, the Board of Public Works in Maryland, and the agency's Commissioner in Indiana. Arkansas requires a commission to approve expenditures over $30K.

In six states, the agency must obtain prior legislative approval for some types of expenditures. Washington requires *any* expenditure from its State or Local Toxic Control Account to be appropriated by statute. Oklahoma requires a site-specific appropriation whenever site costs are expected to exceed $1M; Illinois must get a similar appropriation if site expenditures will exceed $1M for a single incident. According to Illinois program officials, this cap has not affected the program's effectiveness. In Vermont, the legislature or its joint fiscal committee must approve all nonemergency expenditures greater than $50K. Similarly, Delaware's joint fiscal committee must approve any expenditure that would exceed 15 percent of the fund balance. Finally, Nevada's Interim Finance Committee must approve any studies not already budgeted.

California is the only state that restricts fund use based on the origin of contaminants—monies from the state's primary cleanup vehicle, the Hazardous Substance Account, cannot be used for removals or remedial action if a significant portion of hazardous substances originated outside the state.

F. CLEANUP POLICIES

Cleanup policies and criteria are used to establish cleanup goals and to determine the level of environmental and health risk reductions to be achieved by remedial action. Between 1989 and 2001, when cleanup policy data was collected, there have been significant changes to the face of cleanup policies in the states. In 1989, when ELI completed the first of these studies of state superfund programs, most states did not have any set cleanup standards and did not take future land use into account; today virtually every state has a form of cleanup standards and considers the site's future use in some manner. However, a rise in the use of set cleanup standards as well as the consideration of future land use in determining the standards in no way indicates that cleanup policies across the states are standardized. In fact, although practically all states contain these aspects, the states vary considerably in the extensiveness and formality of procedures used to set cleanup standards. The program variations usually occur in three areas: the criteria used to establish cleanup standards; the process employed for selecting and applying the state's cleanup standards; and the method of incorporating future land use in the cleanup process.

Since 1997, the types of criteria that states consider when establishing cleanup levels have not changed significantly. Most states continue to use the same criteria as in 1997, and very few states have added any new criteria to their programs. Table IV-12 lists a number of criteria used by states to determine cleanup levels at hazardous sites within their state cleanup programs. The majority of the states use the same criteria, and the same actual standards, for both state and voluntary cleanup programs. However, seven states—Arizona, Iowa, Hawaii, Kansas, Ohio, Utah, and Virginia—use different standards for their VCP programs and Colorado does not have set standards for its state program, having set standards only for its voluntary program. Criteria used by states include: risk assessment for carcinogens and noncarcinogens, background levels, water quality criteria, maximum contaminant levels (MCLs) or maximum contaminant level goals (MCLGs), groundwater standards, soil standards, chemical-specific health-based standards, and land-use-based criteria. A state may use different criteria at different sites, as appropriate.

One shift that has occurred over the years is in how background levels are used. Initially some states used background levels as a stringent cleanup standard, requiring cleanup beyond health-based standards if background levels were lower. Many states now use background levels as an end point for cleanups when the background level of a contaminant of concern is higher than the otherwise applicable standard.

A total of 49 states employ health-based risk assessment for carcinogens and 49 for noncarcinogens. There is considerable variation in the target risk level for carcinogens. The largest number of states, twenty (20), use a risk standard of 10^{-6}, while 11 states use a risk standard of 10^{-5}, another eleven (11) states use a risk range of 10^{-4} to 10^{-6}, three states use a range of 10^{-5} to 10^{-6}, one uses a standard of 10^{-4}, one state uses a risk standard of 10^{-4}, and one state uses a range of 10^{-4} to 10^{-5}. Virtually all of the states use a standard for non-carcinogens of a Hazard Index of one (HI=1). Forty-five (45) states reported the use of background levels to determine cleanup levels. Forty-six (46) states reported the application of water quality criteria, while 47 apply MCLs or MCLGs. Forty-four (44) states employ groundwater standards, 40 employ soil standards, 35 employ chemical-specific health-based standards and 46 employ land-use based criteria. Finally, a total of 20 states use all nine criteria.

Although the method for establishing standards varies from state to state, in recent years there has been a significant change in the way states establish their standards through the increase in the use of tiered systems. In 1997, only seven states employed a tiered system compared to 23 states in 2001. In a tiered or multiple methods system the state will offer at least two and as many as four options for the party conducting the cleanup to chose from. Tiered systems allow the party remediating the site to select the option that will minimize transaction and other costs. Although the programs that employ the tiered system approach can vary significantly, a few components are commonly included. Two of the most common tiers or options within a multi-tiered system are cleanup or "look-up" tables and risk assessments. Cleanup tables typically consist of numerical standards that are the most stringent standards available for the protection of human health and the environment and serve as the default cleanup levels. Conversely, a risk assessment allows the party that remediates the site to tailor the cleanup levels to the needs and future land use of the site.

One example of the tiered approach is Oklahoma's three-tiered system that includes: tier one, a comparison of site data to screening levels; tier two, development of conservative risk-based default cleanup levels using site specific data; and tier three, implementation of a site-specific Risk Assessment. In comparison, Missouri employs a three-tiered RBCA-type system—Cleanup Action Levels in Missouri (CALM)—designed to establish cleanup levels for residential, commercial and industrial sites.

Another example that demonstrates the varied nature of tiered systems is Washington's system, which provides three methods for establishing cleanup levels. Method A provides tables of cleanup levels that are protective of human health for 25 to 30 of the most common hazardous substances found in soil and groundwater at sites. This method is designed for straightforward cleanups of sites that involve relatively few hazardous substances. Cleanup levels are established under Method B using applicable state and federal laws, risk assessment equations, and other requirements specified for each medium. Method B may be used at any site and is the most common method for setting cleanup levels when sites are contaminated with substances not listed under Method A. Method C is similar to Method B, however, Method C cleanup levels are based on less stringent exposure assumptions and lifetime cancer risk is set at 1 in 100,000 for both individual substances and for the total cancer risk caused by all substances on a site. Method C cleanup levels may be used to set soil and air cleanup levels at industrial sites and to set air cleanup levels in manholes and utility vaults. For groundwater, surface water and air cleanup levels, Method C may also be used when Method A or B cleanup levels are lower than technically possible for area background concentrations, or when attainment of those levels may result in a significantly greater overall threat to human health and the environment than attainment of Method C cleanup levels, provided all practicable methods of treatment have been used and institutional controls are in place.

In recent years, land use has become a more significant factor in determining cleanup standards. Virtually all states now consider the future land use of the site when setting cleanup goals. In general, cleanup standards are established after deciding how a particular site will be used after the cleanup is completed. Furthermore, exposure pathways are considered based on expected land use. Thus, if a site will be used for an industrial or commercial facility—where children will not be exposed to contaminated soils, or groundwater will not be used for drinking—the cleanup standards may be set at existing levels. In such cases, contaminated groundwater or soils may be left in place because the planned land use of the site will reduce the risks associated with human exposure to those contaminants.

States consider a variety of factors in making assumptions about future land use at a site. The most commonly used approach is to consider current land use and zoning requirements, often accompanied by consideration of potential future land uses for particular site. A few states—such as Alabama, Kentucky, New York, Nevada, North Carolina, and South Carolina—assume that a site will be used for residential purposes in the future unless a deed restriction is in place. Other states, such as Wyoming and Georgia, presume that all groundwater will be used for human consumption and therefore must be cleaned up appropriately. Furthermore, several states consider a statement of a responsible party, while others leave all or some decisions about future land use to local governments. In many cases, states use a combination of these and other considerations. In a few states future land use is based on more loosely defined considerations, such as "common sense," "reasonable expectations," and "best professional judgment." At least three states do not use land use assumptions at all, while several others use land use assumptions only for voluntary cleanup or brownfields sites. Hawaii, one of the states that does not employ land use assumptions, holds all sites to the same standards within the range of 1 x 10-4 to 1 x 10-6 regardless of the planned land use.

In sum, the information provided by states on cleanup policies and criteria indicate a further maturation of state cleanup programs through the proliferation of tiered systems. The rise in the use of the tiered selection method is significant because the use of such a system permits the party conducting the cleanup to select the method that will be most efficient, both in terms of time and expenditures. Another notable difference between 2001 and previous years is the lack of variation, in most states, in the specific criteria employed for cleanups. The recent constancy in cleanup criteria would seem to indicate that most states have reached a point where the criteria used are, for the time being, well suited to the needs of the state as well as for protecting human health and environment. Moreover, the states apparently have recognized the utility of incorporating future land use in the cleanup standard decision making process, as the vast majority of the states now incorporate future land use into their cleanup policies some manner. For a brief discussion of cleanup standards in the states' voluntary cleanup programs see Section I.

G. PUBLIC PARTICIPATION

General

Most states require some form of public participation in decisions concerning state hazardous substance cleanups and state voluntary or brownfield cleanups. Public participation may be required by statute or regulation, implemented pursuant to agency policy, or implemented on an ad hoc basis in response to expressed public concern. For many states, the degree of public participation required during the site remediation process is directly dependent upon public interest. Table IV-13 describes formal and ad hoc public participation requirements for each state.

Since 1997, the number of states requiring public participation has increased. A total of 47 states reported some form of public participation in the state cleanup program, an increase from 41 in 1997. This increase is due in part to several states implementing new policy. Illinois, Maine, and New Hampshire, for example, began involving the public through policy or on an ad hoc basis in 2000 after reporting no such policy in 1997. Of the 47 states that reported some form of public participation in the state cleanup program, 25 states have statutory or regulatory requirements for public participation, while16 solicit public participation strictly as a matter of policy or on an ad hoc basis. Another six states have a combination of statutory or regulatory and policy or ad hoc requirements for public participation.

A number of states apply different requirements to their voluntary cleanup programs than to their state cleanup programs. Thirty-one (31) states have some difference between the two programs' requirements. Within Kentucky's state cleanup program, public notice, public comment, and public hearings/meetings are provided by policy or conducted on an ad hoc basis. The Kentucky brownfields program, on the other hand, provides for public notice, public comment, and public hearings/meetings according to statute. Similarly, South Carolina provides opportunities for public notice, public comments, and hearings/meetings within the state cleanup program as a matter of policy, but under the voluntary program, statutory provisions require public notice, public comment, and hearings/meetings for all site cleanups. In addition to these two, other states, including the District of Columbia, Iowa, Kansas, Oklahoma, and Vermont, have statutory or regulatory public participation requirements for their voluntary remediation programs, but not for general state cleanups. The District of Columbia statute, however, authorizes the Environmental Health Administration to develop public involvement plans, which may include hearings, for the general cleanup program. Conversely, statutory or regulatory public participation requirements exist for the Missouri, New York, and Tennessee programs, but these states' voluntary remediation programs conduct public participation according to policy or on an ad hoc basis.

Public Notice Requirements

One of the most common and important public participation practices is notification of the public throughout the site handling process. A total of 46 states reported that they notify the public at some point during the site handling process within the state cleanup program. Of these 46 states, 29 have statutory or regulatory provisions for public notice, and the remaining 17 provide for public notice according to policy or on an ad hoc basis. Of the 49 states that have voluntary cleanup programs, 46 states reported public notification at some point during the site handling process within the program; 37 through statute or regulation, and nine through policy or on an ad hoc

basis. The number of states with public notification requirements for their voluntary cleanup programs increased by 10 since 1997. This increase is due to a number of states implementing new statutes for the voluntary cleanup and brownfields programs. The District of Columbia, Georgia, Iowa, and Kentucky are among the states reporting statutory or regulatory requirements for the first time.

The manner in which public notice is implemented within a cleanup program depends upon specific state requirements. States such as New York, Oregon, Rhode Island, and Vermont, require public notice of draft or final remediation plans. Other states, including California, Delaware, New Jersey, Pennsylvania, and Texas, notify the public of decisions concerning cleanup activities. Hawaii provides public notice of administrative records.

The various forms of public notice may be communicated via mail, newspaper, radio, and availability in public libraries to specific parties within the state. Mississippi provides for public notice via direct mailings. New York must mail notice of an addition of a site to its Registry of Inactive Hazardous Waste Sites, or reclassification of a site within the registry, to adjacent property owners and to town and county clerks. Hawaii publishes a notice of availability of the administrative record in a newspaper when the state determines that public participation is in the public interest or significant concern has been expressed. Missouri uses fact sheets and news releases to provide information to the public.

Public Comment

Most states solicit public comments at some point during the site cleanup process. Within state cleanup programs, a total of 45 states have provisions for public comment. Of these 45 states, 31 have statutory or regulatory provisions for public comment, and the remaining 14 have provisions according to policy or on an ad hoc basis. Within the voluntary cleanup programs, a total of 45 states reported having provisions for public comments at some point during the site cleanup process. Of these 45 states, 35 have statutory or regulatory provisions for public comments, and the remaining 10 have provisions according to policy or on an ad hoc basis. As with public notice, there was a large increase in the number of states with provisions for public comment. Only 24 states had statutory or regulatory requirements for public comment in 1997.

Most states require public comment in conjunction with public notice. Of the 50 states with some form of public notice provision for either the state cleanup program or the voluntary cleanup program, a majority of the states require public comment in those programs as well. Washington and Colorado provide for only public notice under their voluntary programs, though both require public notice and public comment under their state cleanup programs. North Dakota provides for only public notice under its state programs.

States solicit public comments for different events during the site cleanup process. For example, Louisiana holds a public comment period prior to approval of a remedial investigation plan and selection of a remedy. Other states, like Florida and Connecticut, will solicit public comments for activities at a site if sufficient public interest exists.

Some states, such as Pennsylvania, New York, Oregon, and Vermont, require a standard public comment period from 15 to 90 days. New York holds a comment period of 30 days to solicit comments on its proposed remedial action plan, as well as a 30-day comment period after public notice of a proposal to delete a site from the state registry. Vermont's brownfields law requires a minimum 15-day public comment period for a proposed corrective action plan, while the District of Columbia requires a 14-day comment period on a proposed approval of a certificate of completion under the VCP.

Public Hearings/Meetings

Public hearings or meetings may play a significant role in the site cleanup process. Within the state cleanup programs, a total of 43 states reported provisions for public hearings or meetings on cleanup sites. Of these 43 states, 26 have statutory or regulatory provisions for public hearings or meetings, and 17 have provisions according to policy or on an ad hoc basis. Within the voluntary cleanup programs, a total of 37 states reported provisions for public hearings or meetings at cleanup sites. Of these 37 states, 26 have statutory or regulatory provisions for public hearings or meetings, and 11 have provisions according to policy or on an ad hoc basis.

Public hearings or meetings may be required at different stages in the site handling process. States such as Arkansas and California hold public hearings prior to making a decision to add or delete a site from a priority list, or

before taking any actions upon a site. Missouri conducts public hearings only if resolution of appeals to the State Hazardous Waste Management Commission cannot be negotiated. In addition, some states, including Alaska, Florida, Oklahoma, and Oregon, conduct public meetings or hearings only if sufficient public interest exists or on an ad hoc basis. Moreover, Texas will conduct hearings if requested where not already required by law.

Grants

Nine states provide grants to citizen groups for public participation in the site cleanup process. Massachusetts, Pennsylvania, Michigan, Montana, and Washington have statutory or regulatory provisions for grants to citizen groups within the state cleanup program. Alaska, Ohio, New Mexico, and Kentucky give grants to citizen groups according to policy or on an ad hoc basis within the state cleanup program. Only Arkansas, Massachusetts, and Michigan provide grants to citizen groups for public participation in the voluntary or brownfields site cleanup process.

States may offer grants to different parties within the site cleanup process. In New Mexico, responsible parties often make technical assistance grants available to local communities at sites being cleaned up under an Administrative Order on Consent; and in Massachusetts, technical assistance grants are available for all parties.

H. ENFORCEMENT

State hazardous substance cleanup laws frequently contain enforcement provisions. Enforcement authorities under state laws vary significantly. Many of the states with cleanup fund laws have enforcement provisions in those laws; many of these provisions are similar to those in the federal CERCLA. However, other states rely for enforcement on their general environmental laws, hazardous and solid waste laws, groundwater laws, and other provisions. See Table IV-2. For example, Nebraska's enforcement provisions are contained in its groundwater protection laws and apply only to contamination of groundwater.

Liability

Who is Liable?

The most important issue in enforcement is determining who can be charged with liability for cleanup of hazardous substances. Most of the state statutes have followed the federal lead by making a wide spectrum of actors "responsible parties." The majority of state liability standards provide a means to reach the same parties that CERCLA does—owners, operators, generators, transporters, etc.

A few states have more difficulty reaching beyond owners and operators of disposal sites. For example, states that rely on RCRA-type authorities for enforcement generally must show a RCRA violation or, at least, RCRA jurisdiction over the actor or the site at the time that the disposal occurred. However, even in these states, solid waste laws or imminent danger provisions can provide a longer reach. Because most states also have a general provision prohibiting pollution of "waters of the state," even those states without CERCLA-type authority can at least arguably reach generators or transporters that have placed hazardous material where it has entered groundwater.

Retroactivity

A key issue is the "retroactivity" of the liability imposed by state cleanup statutes. This has become a topic of concern as Congress debates the reauthorization of CERCLA. CERCLA imposes liability for disposal and other actions that occurred prior to the date CERCLA was enacted, a form of liability that has been popularly described as retroactive. In order to avoid any confusion of state liability with federal liability standards, ELI asked a precise question: "Can your state program impose liability *under state law* for cleanup of substances disposed of before the date the program was enacted?"

Forty-three (43) states impose retroactive liability (see Table IV-14). Only California, Colorado, Idaho, Montana, Nebraska, Utah, West Virginia, and Wyoming cannot impose retroactive liability using state cleanup laws. The new District of Columbia statute does not mention retroactive liability. Additionally, in Virginia, whether the state

program can impose retroactive liability has not been decided or tested. Several states, including California and Colorado in particular, have used the federal CERCLA to seek cleanup of such sites.

Liability Standards

Liability standards are subject to interpretation by state courts, based on the statutory language, statutory structure, and the common law legal arguments advanced by the state. In a number of states, the liability standard has never been tested in court. This study finds that the vast majority of liability schemes under state programs (33) continue to follow the federal CERCLA model of "strict, joint and several" liability, which was itself borrowed from New Jersey.

This study and its prior updates have reflected changes in liability standards not only when statutes have changed, but also when states' interpretations of their laws have changed—where the relevant statutory language is subject to more than one interpretation. The study methodology, consistent since ELI's first study of these programs in 1989, uses the information about liability standards provided by the states themselves, which ELI then verifies against the statutory language to assure that the states' asserted standards are within the scope of the statutes.

Standards of liability in all of the states involve two questions. These two questions must be answered separately in order to understand a liability scheme. Unfortunately, they are often confused in public discussion.

The first question is whether any showing of fault is required in order to render a party liable. In other words, is liability strict—based solely on the occurrence of a release—or does it require proof of fault, such as reckless or negligent handling? This is the *culpability* standard.

The second question is how liability is to be divided among the various actors who contributed to the presence and release of a hazardous substance. This is the issue of how liability is to be allocated. Is liability joint and several, proportional, or some combination of both? This is the *allocation* standard.

State Culpability Standards

Strict liability is the most frequently used culpability standard in state cleanup programs. Strict liability means that the enforcement agency does not need to prove that the responsible party committed a negligent, reckless, or intentionally wrongful act. Rather, it must show simply that the party contributed to a release of hazardous substances. With strict liability, a responsible party who has contributed to hazardous conditions at a site is liable for cleanup costs based simply upon the occurrence of a release, without proof of fault.

Liability standards other than strict require the state to satisfy a higher burden of proof—such as proof of negligence or willful intent by a responsible party. This, in turn, requires the state to spend more resources investigating the past intent of parties involved in a particular site. Liability standards that require proof of fault effectively limit the universe of parties to whom cleanup liability may attach. This, in turn, is likely to reduce the effectiveness of the cleanup program.

Forty-one (41) states have strict liability standards (Table IV-14). The remaining states do not specify liability standards, lack an enforcement statute, or require proof of fault.

State Allocation Standards

Most hazardous substance sites have more than one potentially responsible party. These may include site owners and operators, the generators of the hazardous substances, the transporters of the hazardous substances, and various arrangers and disposers. Absent a statutory prescription of an allocation standard, joint and several liability is the normal common-law method of assigning costs among responsible parties where more than one party causes harm. It is used in the federal CERCLA program. The joint and several liability standard means that each company that contributed in any way to the presence or release of hazardous substances is held responsible for the *entire* liability unless it can show that its contribution to the harm was distinct and divisible.

Joint and several liability enables a government to sue one or more of the responsible parties for the full amount of the cleanup, and leave it to them either to prove that their share is divisible or to pay the government the full amount and then seek to recover contributory shares from other responsible parties. Joint and several liability has been a cornerstone of the federal program and many state programs because it allows the government to commence enforcement or cleanup before all information on the history of the site is available. It also conserves governmental funds by placing the burden of allocating costs on the private parties responsible for the contamination. Joint and

several liability does not generally result in a single party bearing all of the costs. Instead, it generally promotes the formation of committees among the responsible parties to attempt to work out their shares among themselves.

In contrast, proportional liability requires the government to allocate liability in shares among the responsible parties by proving their proportional responsibility (which may be determined in a variety of ways). In addition, the government must pick up the tab for any defunct organizations that contributed to the hazardous substances released. A few state laws use proportional liability schemes, and some states use a hybrid approach.

Like the federal government, 36 states use joint and several liability as their allocation standard (Table IV-14); of these, all but Michigan, North Dakota, and Wisconsin are also strict liability states. Eleven (11) of the 36 states that use the joint and several liability, however, also specifically allow responsible parties an opportunity to prove a divisible apportionment, or enter into an allocation process. These are Arkansas, Illinois, Louisiana, Maryland, Michigan, Mississippi, Montana, North Dakota, Pennsylvania, Texas, and Vermont. In most of these states, while liability begins with a joint and several presumption, the opportunity to prove a divisible share is afforded. The standard for divisibility is usually more generous than that under the common law. Montana's law provides for joint and several liability in determining liability however, amendments to the state's *Controlled Allocation of Liability Act* (1997) allow a potentially liable party under the state cleanup program or any party who has received approval of a voluntary cleanup plan to petition for allocation of liability. Pennsylvania uses joint and several liability, but provides a process for responsible parties to participate in allocations of proportional liability.

Only three states (Alabama, Arizona, and Tennessee) have laws that specify proportional liability as the sole applicable standard.

No standards for allocating liability are specified in 10 states (Colorado, Idaho, Kansas, Missouri, Nebraska, Nevada, Puerto Rico, Virginia, West Virginia, and Wyoming). Some of these, like Colorado, lack a statutory cleanup program comparable to Superfund. Others simply are silent on the allocation standard. States where there is no allocation standard may be able to avail themselves of joint and several liability as a common law doctrine.

Enforcement Tools

Virtually all state programs have the authority to issue administrative cleanup orders. Where such authority is not available under a state cleanup statute, it often is available under a solid and hazardous waste law, a groundwater protection law, or a general imminent endangerment provision. All states have the authority to seek injunctions for cleanups. Both order authorities and injunction authorities are limited by the substantive provisions of state law; some do not reach generators, some require proof that the release is of a "hazardous waste," and some are as broad as the federal Superfund program or broader.

State cleanup orders are not always identical to CERCLA § 106 orders, which are not subject to pre-enforcement review. In many of the states, a responsible party receiving an administrative cleanup order has the right to seek review of that order before a board, commission, or state court. For example, in Illinois, the state must file a complaint with the Pollution Control Board if the responsible party does not agree to cleanup. In Arizona, the recipient of an order may seek administrative review. Pennsylvania's Hazardous Sites Cleanup Act provides for two types of cleanup orders. While one type is not subject to pre-enforcement review, the other may be appealed administratively to Pennsylvania's environmental hearing board. In Texas, a cleanup order may be appealed to state court. Other states, such as Tennessee and Oregon, do not allow pre-enforcement review of cleanup orders. In a significant number of states, the availability of pre-enforcement review has not been determined because all sites have been handled by consent order or voluntary agreement.

The standard of review for an agency's administrative order may be important. In most states, no standard of review is spelled out in the statute. In contrast, in Pennsylvania (under one of the two order types) the agency action must be upheld unless the board or court finds it "arbitrary and capricious." In Texas, the state has the burden of proving on appeal that there is an imminent and substantial danger and that the order recipient is liable for the cleanup. However, if the "appropriateness" of the remedy is contested on appeal, the remedy must be upheld unless the court finds it "arbitrary and capricious."

Recovery of punitive damages is provided in 26 states (Table IV-15). Recovery of treble damages is authorized in 23 states; one state (Montana) authorizes double damages; and two states (Connecticut and Tennessee) authorize recovery of 1½ times remediation costs as damages. Louisiana's statute has two standards. It provides for the recovery

of treble damages by the state from non-cooperating responsible parties, but it also provides that participating responsible parties can recover double damages from nonparticipating responsible parties, thus giving a stronger incentive to responsible parties to participate in settlements.

The states' standards for assessment of punitive damages vary somewhat, but generally require more than simple refusal to do the work directed in an order. For example, the Pennsylvania statute requires "willful" failure to comply. The New Jersey courts have created a "good faith" defense to such damages.

Most states have civil penalty provisions usable in enforcing cleanup of hazardous sites, but most rely on their hazardous waste laws, water pollution laws, and solid waste laws rather than on state Superfund laws for this purpose. Moreover, in practice, penalties have not been highly important in securing cleanup actions. The potential to perform state-funded cleanups and recover punitive damages has been a much stronger incentive. The real force of this incentive depends upon the credibility of the state's threat to spend fund monies. The enforcement leverage is minimal to nonexistent in those states where the fund may only be expended for the state share of NPL cleanups or for emergency responses, or where it may be expended on state sites only after a lengthy listing process or by special enactment of the legislature. In contrast, in those states where expenditures can be authorized relatively quickly, the states' enforcement leverage is enhanced.

Criminal penalties are not a factor in most state cleanup programs. Virtually all of the state programs contain provisions making the submission of false information or failure to pay fees (where state funds are supported by fees) criminal offenses. In general, the failure to comply with a state cleanup order is not a criminal offense. However, solid and hazardous waste statutes provide a broad range of criminal offenses that may reach unlawful disposal and other types of conduct.

Property Transfer Provisions

Property transfer provisions are "laws, regulations, or policies that link the discovery, identification, investigation, cleanup, or disclosure of hazardous substance contamination to transfers of real property, or to transfers of ownership or control of such property." Most property transfer provisions impose duties on land owners to disclose the presence of hazardous substances on a site; others require site investigations, and deed recordation; some even require site cleanup as a condition of the transfer.

An increasing number of states have adopted property transfer provisions. Thirty-seven (37) states reported that they have some type of property transfer provision related to sites contaminated with hazardous substances, up from 31 states in 1997, 25 in 1995, 23 in 1993, and 18 in 1991. States that simply maintain a database of contaminated sites or that have disclosure requirements only for sale of residential property are not included in the total of 37 unless they also have some other provisions linked to transfer of real property.

Twenty-three (23) states have provisions that require deed recordation where hazardous sites have been discovered, listed, or cleaned up. Deed recordation requirements in some states are limited to hazardous or solid waste disposal facilities. For example, Louisiana requires recordation of notices that a site has been used for disposal of hazardous waste or as a solid waste landfill, and that such wastes remain; or, where the state finds an abandoned site, that the site is an abandoned waste site. In Michigan, a seller who knows that hazardous substances were released in a reportable quantity must not only provide notice to the purchaser, but also record the notice with the deed of transfer. Upon completion of cleanup, the owner records a certificate of completion of an approved remedial action. Similar provisions apply in West Virginia, but only to hazardous waste conveyors, and treatment, storage, or disposal sites. New York requires county clerks to index in the land records any sites listed on the Registry of Inactive Hazardous Waste Sites. In Iowa, a conveyor of real property is required to provide the recorder of deeds with a statement regarding the existence of wells, disposal sites, underground storage tanks, and hazardous wastes; the recorder must notify the transferee and the state if these are present. In Tennessee, the Commissioner of TDEC is required to notify the register of deeds in the county where property has been listed on the state list and requires the register to record a notice that the property has been listed.

Thirty (30) states require disclosure of hazardous substances to purchasers of property. While these provisions typically apply to industrial properties and contaminated sites, in some states they apply broadly. Some of these states explicitly require sellers to examine their property; in others, the obligation to investigate is implied or unstated. In some cases, the disclosure is limited to sites that have come to the attention of the state cleanup program. In others,

it applies to whole classes of industrial properties. In California, for example, any owner of a nonresidential real property interest who knows, or has reason to believe that a hazardous substance is located on or beneath the property is required to notify, in writing, each buyer prior to the sale. Lessees of residential and nonresidential property are required to give notice to property owners of any release of a hazardous substance. Failure to give notice can subject the lessees to liability for damages and civil penalties. The Illinois Responsible Property Transfer Act requires that the transferor provide environmental disclosure documents to both the transferee and lender. The law applies to all transfers of real property that is used for manufacture, import, or use of hazardous materials above a statutory threshold or that contains an underground storage tank. Parties to the transaction may cancel a prospective transfer based on the disclosures. Indiana's Responsible Property Transfer Law is modeled on the Illinois statute. Missouri law requires disclosure by the seller, but only for sites on the state's registry.

Many states, including a number of those with hazardous substance disclosure requirements noted above, have disclosure requirements that apply solely to residential property transfers. Often as part of these states' real estate codes, these typically apply to sales of residential property with one to four dwelling units. For example, in California, sellers of real property or residential stock cooperatives with one to four dwelling units must disclose whether they are aware of the presence of any substances, materials, or products that may be an environmental hazard. California counties and cities may add their own disclosure requirements. Some of these requirements are quite narrow, prescribing a form to be completed by licensed real estate agents disclosing known material defects or environmental hazards (*e.g.*, Indiana, Washington). Others allow the buyer to disclose or disclaim knowledge of the condition of the property (*e.g.*, Maryland, Virginia). A 1995 New Jersey law requires real estate brokers to disclose to purchasers of new homes the availability of a list of certain off-site environmental conditions that may affect the value of the property. The list is to be maintained by municipal clerks and includes federal Superfund sites and New Jersey contaminated sites among other properties.

Three states require cleanup or cleanup commitments in connection with transfers or sales of industrial establishments. New Jersey's 1983 Environmental Cleanup Responsibility Act (ECRA) pioneered the wave of disclosure laws that followed, but was one of only two to mandate cleanup as well as disclosure. In 1993, the New Jersey legislature amended ECRA, renaming it the Industrial Sites Recovery Act (ISRA). ISRA retains the basic approach of ECRA, requiring parties to examine sites and imposing cleanup obligations as a condition of the transfer. The law also applies to closures of facilities. Failure to comply makes the transaction voidable by the transferee or by the state; civil penalties are also available. ISRA does allow deferral of cleanup under three conditions: if the site has been assessed; if it will remain in the same industrial use after the transfer; and if the seller's ability to pay for cleanup is certified. The New Jersey law is particularly far-reaching because it is not limited to direct conveyances of real property; ISRA also applies to transfers of ownership and control of entities holding real property.

Connecticut has a cleanup law patterned after ECRA, but it is not quite as comprehensive. Like ECRA, it requires cleanup as a condition of transfer. However, the transaction is not voidable for noncompliance. Instead, the transferor remains strictly liable and is also subject to penalties. Hawaii provides for seller investigation and a cleanup agreement in connection with the transfer of industrial property.

Twenty-six (26) states reported that they maintain a database or databases to assist purchasers and other parties to transactions in conducting environmental due diligence to determine whether sites have been contaminated. This is the same number of states as in 1997, but a substantial increase from prior years.

Superliens

Some states are able to use superliens to aid in the recovery of state funds spent on site cleanup. A lien is a legal claim against the title of the property that becomes more significant at the time of a transfer, because it makes property transfers more difficult, or requires satisfaction to give the transferee clear title to the property. A great many states (34) with cleanup funds have authority to impose liens on the cleaned-up property to recoup the state's costs.

Superliens differ from ordinary liens in that they claim a higher priority than they would ordinarily obtain under the laws governing security interests. Ordinarily, liens obtain priority in the order in which they are recorded. The first lien recorded takes precedence over the second lien, the second over the third, and so on. This precedence means that upon sale of the property (or foreclosure), the earlier lienholders must be paid before the later ones can recover anything. A superlien changes this priority by giving the state's lien for recovery of cleanup costs priority over some or all liens even if they have been recorded earlier.

The rationale for the superlien is that if the state had not expended the money, the property would have been worthless; therefore, the state should recoup its expenses before any others benefit. Ten states—Connecticut, Delaware, Hawaii, Louisiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, and Wisconsin—reported having superliens. However, the superiority of these liens varies somewhat. For example, New Jersey's superlien takes priority over all other liens and over other real property owned by the site owner, not just the cleaned-up property. Most other superliens give priority only over liens on the cleaned-up property. Maine's superlien takes priority over any lien recorded after the date of the superlien law, but not those recorded before the law. Louisiana's lien does not take priority over prior recorded liens, but its Inactive and Abandoned Hazardous Waste Sites statute allows the recordation of the lien before the amount is known and allows the lien to relate back to the date of filing, thus giving it some effective priority. Michigan may file a superlien, rather than an ordinary lien, only if the Attorney General can make a showing that priority is necessary to protect the state's interests. Wisconsin's superlien takes priority over other liens except for valid prior liens on residential property. Arkansas had one of the early superlien authorities, but is no longer listed in this study as having such authority because of constraints placed on the authority by the legislature rendering it largely inapplicable in most instances.

I. VOLUNTARY CLEANUP PROGRAMS

Voluntary cleanup programs are state-sponsored programs that encourage private parties to conduct cleanups of contaminated properties in the absence of state enforcement measures. The programs are run in a myriad of ways and nearly every state conducts its program differently, however, there are a number of elements that are common to many state voluntary cleanup programs. States will typically set the eligibility requirements for participation in voluntary cleanup programs, establish cleanup standards, provide oversight of the cleanup activities, and establish one or more forms of incentives to encourage participation in the program. Voluntary cleanups provide states with an additional tool to address the over 23,000 sites identified as needing attention across the country, as well as sites that have not yet been identified. Furthermore, a voluntary cleanup program is a useful tool for the states, as voluntary cleanups typically require fewer resources and funding from the state than state-funded or enforcement-based cleanups. These savings often allow states to leverage their resources, concentrate their efforts, and achieve additional cleanups.

Tables IV- 2, 4, 7, 12, 13, and16 provide detailed information on state voluntary cleanup programs. Table IV-2 lists the statutory authority for a state's voluntary program. Table IV-4 provides information about number of cleanups. Table IV-7 includes information on administration and staff funding levels for voluntary cleanup programs and table IV-13 includes information on public participation. Table IV-16 describes when the states' programs were established, eligibility requirements, funding sources, and incentives for program participation. Since the 1998 study, five states have started voluntary programs (the District of Columbia, Kentucky, Louisiana, Puerto Rico, and Wyoming) for a total of forty-nine (49) states with formal voluntary cleanup programs. In addition, Alabama and Nevada enacted legislation creating formal voluntary programs to replace their pre-existing informal programs and Arizona passed legislation amending its voluntary program. Vermont, North Dakota, and South Dakota are the only states to date that do not have formal voluntary cleanup programs. However, both Vermont and South Dakota allow private parties to initiate voluntary cleanups. Additionally, it should be noted that Vermont has a brownfields cleanup program that allows for certain types of voluntary cleanups, and South Dakota was in the process of developing a state voluntary cleanup program.

The voluntary cleanup programs in each of the 49 states that employ them vary considerably in terms of structure and formality. This is in no small way due to the absence of federal legislation that would impose standards for voluntary programs. In fact, voluntary cleanup programs began as innovative programs created by states such as Minnesota and North Carolina to respond to requests by landowners and others for state assistance in facilitating private cleanups of sites. Thus, states have developed their programs to meet their individual needs.

Authority

States derive authority for their voluntary cleanup programs in several ways: specific statutory authority; the general authority of the state's hazardous waste laws; regulations issued pursuant to existing statutory authority; and

guidance or policy. Most state voluntary programs are specifically established by statute. However, several states, including Alabama and California, rely on their general cleanup authority for their voluntary programs. At least one state, Washington, reports that it derives its authority from regulations. Other states, including Alaska, New York, and South Carolina, have established their programs through guidance or policy.

Administration

In most states the voluntary cleanup programs are integral components of the general hazardous site cleanup programs and are administered by the same offices. A limited number of states separate the administration of their hazardous substance programs and voluntary programs, but typically describe the programs as compatible or companion programs (Arizona, Nevada, Wyoming, and Mississippi). Wyoming currently does not conduct its voluntary program under any one division or branch but rather administers it through the various individual cleanup programs within the Wyoming Department of Environmental Quality. In fourteen states (Arizona, Colorado, Illinois, Indiana, Massachusetts, Maryland, North Carolina, Nebraska, Nevada, New Hampshire, Pennsylvania, Texas, Utah, and Virginia) virtually all cleanups in the state are conducted under the voluntary program. Within North Carolina and New Hampshire all of the cleanups conducted in the state are under the voluntary program.

In the 35 states reporting funding information (see Table IV-7), there are four common sources of funding for the states' voluntary cleanup program staff and administrative costs: state cleanup funds, state general funds, federal grants, and fees. Federal grants include the Environmental Protection Agency's core Superfund program grants, site-specific cooperative agreements and multi-site cooperative agreements. Fourteen (14) states reported using state general funds for program administration and staff, with five of these states receiving more than 50 percent of their funding for program administration and staff from state general funds. Sixteen (16) states reported using state cleanup funds for program administration and staff; of these states eight (8) receive 50 percent or more of their funding for program administration and staff from state cleanup funds. Twenty-six (26) states reported using federal funds for program administration and staff; of these states 10 receive 50 percent or more of their funding for program administration and staff from state cleanup funds. Sixteen (16) states reported using fees for program administration and staff; of these states, eight (8) receive more than 50 percent of their funding for program administration and staff from fees.

Eligibility

Most states limit participation in their voluntary programs in some manner. Eligibility for these programs is generally defined by site characteristics and/or by the type of volunteer. Some states use one approach or the other, however many use a combination of the two approaches. When restricting participation by site, a common approach, used by approximately 25 states, is to preclude sites that are subject to pending enforcement or regulatory actions under either state regulatory programs (hazardous waste, cleanup, UST, or AST) or federal programs (National Priority List or RCRA) or both. Of the states that use this approach delimiting participation based on whether or not the site is on the NPL is the most common with approximately 28 states using this criterion.

The most common approach used when restricting participation by volunteers is to prohibit volunteers that are subject to federal regulatory programs or enforcement proceedings (Alabama, Arkansas, Arizona, Delaware, Hawaii, Idaho, Illinois, Indiana, Kentucky, Maine, Mississippi, New Jersey, New Mexico, Ohio, Oklahoma, Oregon, South Carolina, Virginia, Washington, and Wyoming) or state enforcement proceedings or regulatory programs (New Jersey and Ohio). Another approach is to bar the parties responsible for the site's contamination from participating in voluntary cleanups (Georgia and New York). Other states bar parties that are not in compliance or that have been convicted of a violation of an environmental law from participating in their voluntary programs (Michigan, New Mexico, Oklahoma, and Wyoming). Several of these states also take site characteristics into account when determining eligibility. Overall, approximately 37 states define eligibility for their voluntary programs by types of volunteers and/or type of sites.

Finally, seven states do not use any categorical exclusions, but typically reserve the option of rejecting applications if appropriate. These states include: Minnesota, Nebraska, New Hampshire, North Carolina, Oklahoma, Pennsylvania, and Wisconsin.

Cleanup Standards

Cleanup standards for voluntary sites are typically the same as the standards applied at state-led or enforcement sites. In fact, there are only eight states where the standards vary at all and in these states the differences are generally not significant. For example, in Hawaii the acceptable contamination levels are more stringent for the voluntary cleanup program's risk assessment for carcinogens, soil standards, and chemical-specific health-based standards. Colorado has no formal standards for state cleanup levels because the state does not have enforcement authority and therefore the only standards that exist are those for the voluntary cleanup programs. Other states where the standards for voluntary cleanups vary from the standards for state-led cleanups are Arizona, Iowa, Kansas, Ohio, Utah, and Virginia.

Cleanup Activities

The number of voluntary cleanups underway in FY00 in states that have voluntary programs varies dramatically from one in South Dakota to more than 1,658 in Massachusetts. The wide range in numbers may be attributable, in part, to the fact that some programs were only recently established. In addition the number of sites and, therefore, the number of potential volunteers varies considerably from state to state. Furthermore, some states rely heavily on their voluntary programs while other states maintain active enforcement programs or state-funded cleanups in addition to their voluntary program. On the whole there has been an increase in the number of voluntary cleanups underway, completed in the last fiscal year, and completed since the start of the program. Of the 40 states that provided cleanup activities numbers, those with voluntary cleanup activities underway at more than 100 sites include: Massachusetts (1,658); New Jersey (1,400); Texas (690); Illinois (564); Pennsylvania (491); New Hampshire (286); Oregon (242); Indiana (223); Connecticut (151); Missouri (142); Nevada (112); and Washington (109). States with voluntary cleanups underway at fewer than ten sites include: New Mexico (9), Maryland (8), Louisiana (7), Hawaii (5), Montana (4), Georgia (2), and South Dakota (1).

For voluntary cleanups completed in fiscal year 2000, New Jersey reported the largest number of sites at 700. Other notable states with greater than 75 cleanups completed in their voluntary programs in FY00 are: Massachusetts (450); Pennsylvania (230); Illinois (171); Texas (104) and North Carolina (95). It is notable that in 1997 no states other than New Jersey and Minnesota had completed voluntary cleanups at more than 75 sites, as compared to the six states that completed cleanup at more than 75 sites in 2000.

Since the start of their voluntary cleanup programs, Massachusetts (2,280) and New Jersey (3,500) have completed cleanups at the largest number of sites. Several states have completed voluntary cleanups at more than 100 sites: Pennsylvania (1,000); Illinois (707); Texas (586); North Carolina (392); New Hampshire (344); Oregon (302); Minnesota (264); Colorado (226); Maine (202); Ohio (180); and Oklahoma (110). In addition to the number of cleanups listed here, Minnesota has also issued 676 liability assurances since the start of its voluntary cleanup program. The number of states that have completed more than 100 sites since the inception of their voluntary programs has doubled since 1997. Although some of these states have had voluntary programs in place for 10 years or more (Illinois, Minnesota, New Hampshire, and North Carolina), three of the larger programs were established more recently, in 1995 (New Hampshire, Pennsylvania, and Texas).

Incentives

Most of the states provide some type of incentive for participation in their programs in an effort to overcome deterrents to performing voluntary cleanups such as potential liability, cleanup, and transaction costs. The most common forms of incentives are some form of liability relief, an expedited and/or efficient cleanup oversight processes, and financial incentives such as low-interest loans, grants, and tax credits. Of these incentives the most widely employed are liability release mechanisms, with a total of 37 states providing some form of liability release. When a state provides a liability release, typically, it provides this protection contingent upon state approval of the cleanup and limits the protection to only the contamination addressed by the cleanup activities, excluding unknown, preexisting contamination, or new releases of hazardous substances.

The form of liability relief as well as the scope of the relief varies from state to state and in many voluntary programs the liability relief tools are still being developed and refined. Furthermore, states do not use uniform

terminology when referring to forms of liability relief available under their programs. Two states providing the same substantive form of liability relief may use different terms to describe it and conversely, different forms of liability relief may be referred to with the same term in different states.

One of the most common methods of providing liability relief is a covenant not to sue. The scope of a covenant not to sue will vary from state to state but at a minimum, will typically provide that the state will not take enforcement action against the volunteer for contamination addressed by the cleanup. Another common method of providing liability relief is a no further action letter. At a minimum a no further action letter includes the state's assurance that, based on currently known facts, it is unlikely to require the volunteer to take further action with respect to contamination addressed by the voluntary cleanup. Many states use no further action letters that not only provide assurances that no further cleanup is required, but also specifically provide liability relief. It is important to note, however, that some states do not provide liability relief in their no further action letters—either because such relief is not available or because it is provided in a separate document, such as a settlement agreement with a covenant not to sue. Yet another method of providing liability relief is a state-issued certificate of completion or approval letter. As with no further action letters, some states do not include a liability release in their certificates and approval letters, but simply provide assurances that are intended to give comfort to lenders and prospective purchasers that additional cleanup activities will not be required.

Some states will only provide liability protection to parties that are not responsible for the contamination. For example, Delaware, Maryland, New Mexico, Rhode Island, and Utah will not provide liability protection to responsible parties.

In addition to liability relief and comfort letters, a common incentive reported by states is expedited and/or efficient cleanup oversight processes that include clear end points and deadlines for agency determinations. Alaska, Arizona, California, Kentucky, Maryland, Massachusetts, Mississippi, New Jersey, Washington, and other states employ some variation of a streamlined process for voluntary cleanups as an incentive for participation.

Another incentive increasingly employed by states is the use of financial assistance for the voluntary remediation of sites. Of the financial assistance incentives offered by the states low interest loans (Michigan, New Jersey, Ohio, Oklahoma, and Pennsylvania), tax credits (Colorado, District of Columbia, Florida, and Idaho), and grants (Michigan and New Jersey) are the most common. It is important to note that these financial incentives are often offered through economic development programs administered by state agencies other than the agency overseeing the brownfields cleanups. Finally, other states such as Minnesota and Washington provide technical assistance to volunteers, and Hawaii records the completion of cleanup activities on the deed to the property and sends a letter to the building permit agency.

Funding

Funding for voluntary cleanup programs comes from a variety of sources and states' approaches to funding their programs vary. In addition to federally- or state-allocated funds, states typically require participants to reimburse them for voluntary cleanup oversight costs, either in the form of a flat fee or on the basis of actual costs, or a combination of both. Forty-four (44) states collect fees or seek reimbursement from voluntary program participants, however only two states (Delaware and Indiana) rely solely on the fees or reimbursement for participation. Of the 49 states that have formal voluntary cleanup programs approximately 28 of them rely in some way on state or federal funding to supplement the fees and costs paid by volunteers.

The following state programs impose only a flat fee for participation in the program regardless of actual costs to the state of overseeing the cleanup: Colorado ($2,000); Connecticut ($2,000); District of Columbia ($10,000); Indiana ($1,000); Massachusetts (site-specific); Maryland ($6,000); Michigan ($750 fee to review Baseline Environmental Assessment); Nebraska ($5,000 application fee and a $5,000 participation fee); North Carolina ($2,000, refundable if not used, plus $500 for no further action letter); Pennsylvania ($250 for plans and report, $500 for site-specific plans and final report); Rhode Island ($1,000); and Virginia (the lesser of $5,000 or 1 percent of remediation costs). Of these states, the programs in Indiana (100 percent), Nebraska (90 percent), Texas (77 percent), and Colorado (80 percent) are funded predominately by fees.

The following states seek reimbursement for their costs: Alaska (reimbursement after expenses exceed $1,000); Arkansas; California; Idaho; Illinois (hourly fee); Iowa; Minnesota (approximately $90 per hour); Montana; New

Jersey; New York; Ohio; Oklahoma; Oregon ($5,000 deposit plus additional costs); South Carolina; and Wyoming ($35 per hour). Of the states that require reimbursement for participation in their program Delaware (100 percent), Minnesota (90 percent), and Wyoming (100 percent) are funded almost entirely by reimbursement.

Several states require a flat fee in combination with reimbursement for oversight costs. Although this approach differs in form from the other two approaches, for the most part, it is just another way that states ensure that their costs are recovered. These states include: Alabama; Arizona ($110 per hour) Delaware ($5,000 plus costs); Hawaii ($1,000 plus $5,000 deposit); Kansas ($200 application fee plus costs); Kentucky (application and oversight fees based on size of property and cleanup); Louisiana ($500 fee and direct costs for oversight); Maine ($500 plus costs); Mississippi ($2000 plus $75 an hour over $2000 cost); Missouri ($200 plus $5,000 deposit); New Mexico ($1,000 plus $65 per hour); Tennessee ($5,000 plus costs); Texas ($1,000 plus $95 per hour); Utah ($2,000 plus costs); Washington ($500 deposit and hourly rate) West Virginia ($1,000 or $3,000 or $5,000 plus hourly fee); and Wisconsin ($250 fee plus $70 per hour).

The following states do not impose fees on volunteers: Florida, Georgia, and New Hampshire. Florida and Georgia fund their programs from their general budgets and New Hampshire funds its program from a combination of federal and state funds.

J. BROWNFIELDS

States define brownfields in a variety of ways, but the term typically refers to industrial or commercial facilities that are abandoned or underutilized due, in part, to environmental contamination or fear of contamination. Since the states do not use a standard definition for brownfields, the scope of different state programs may vary considerably. States have made efforts to target brownfields for cleanup and reuse for several reasons, including the potential to revitalize distressed communities, increase tax dollars, and provide new jobs. States take a wide range of approaches and use an assortment of tools to facilitate the cleanup of brownfields. Illinois, for example, does not authorize cleanups through its brownfields program but instead focuses solely on financial incentives. Many states have separate brownfields cleanup programs, while some states address brownfields through their voluntary cleanup programs.

It is important to note that the difference between voluntary and brownfields programs can be a question of semantics rather than substance. In theory, a brownfields program would focus on industrial and commercial sites rather than spill or dump sites, and a voluntary cleanup program would be open to volunteers at any type of site in any location. Brownfields programs are more likely to focus on redevelopment and be part of a broader state strategy or set of social policies aimed at improving distressed urban areas. In practice, however, state voluntary cleanup and brownfields programs do not necessarily make those distinctions. For example, a voluntary cleanup program in one state may focus more heavily on cleanup of brownfields sites than a "brownfields" program in another state. For this reason, it is important to look at both voluntary and brownfields programs to determine the brownfields redevelopment activities in any given state.

Tables IV-17 and IV-18 provide details about the state brownfields programs. Table IV-17 outlines each state's criteria for including a site in its brownfields program, whether RCRA or LUST sites are included, and the incentives for participating in the brownfields program. Table IV-18 sets out the number of sites that have been identified by each program, the number of sites where cleanups are underway, the number of redeveloped sites, and the number of sites with a commitment for redevelopment.

By the end of 2000, 45 states reported that they target brownfields, either through a separate program or through their voluntary cleanup programs. Thirty-one (31) states have separate brownfields programs, an increase of three states from 1997, when only 28 states reported having brownfields programs. Fifteen states target brownfields in varying degrees through their state voluntary cleanup programs. In addition, while Kansas does not have a formal brownfields program, it does target brownfields by providing funding for brownfields assessments and technical assistance.

Criteria for Inclusion

The criteria for inclusion of a site in a brownfields program vary considerably depending on the scope, nature, and structure of the particular state program. In 1997, most states limited eligibility for their brownfields programs

to underutilized or abandoned sites with redevelopment potential. Now, just eight states use this criterion for including sites in the their brownfields programs, and the precise articulation of this standard varies from state to state.

Some states do not have a set definition of a brownfield and allow any site to be included in their programs (Colorado, Illinois, Louisiana, Massachusetts, and Wisconsin). Other states simply use the same criteria for their brownfields sites as for their voluntary programs (Hawaii, Montana, Oregon, and Wyoming). New York and New Mexico have programs that are narrow in scope and include only locally or municipally owned properties.

Some states have more unusual criteria. Florida's statute establishes a process through which "brownfields areas" must be designated by a local government by resolution with appropriate public notice and hearings. In designating brownfields, the Florida local government must consider nine specific issues, including redevelopment potential, private sector interest, recreational open space potential, cultural and historical preservation value, potential jobs, potential economic productivity, and consistency with local comprehensive plans and local land use. Delaware's program includes sites where employment is created and investments are made for business. Virginia's program includes sites with a local government interest or with a potential for redevelopment.

Cleanup Activities

The number of brownfields sites identified and the size and the scope of many programs have increased dramatically since 1997, as a result of the increased focus on urban revitalization and the growing maturity of many state programs. A much larger number of states were able to provide information for FY 2000 on the brownfields sites identified in their states than in the 1997 study. It is important to note that states use different definitions in determining the number of brownfields sites identified. Five states (Louisiana, Maine, Montana, Nebraska, and Texas) that target brownfields through their voluntary cleanup programs rather than through a specific brownfields program were able to provide the number of brownfields identified in the state. Even some states without a brownfields program at all (Minnesota, Iowa, and South Dakota) were able to provide the number of brownfields sites identified in the state. Some states are reluctant to identify brownfields that are not already undergoing cleanup, as property owners have objected that being identified as a brownfield creates a stigma that reduces the value of the property.

In 1997, six states identified more than 100 brownfields sites. For FY00, five states identified more than 1,000 sites and an additional eight states identified between 100 and 1,000 brownfields sites. Wisconsin reported the largest number of brownfields sites identified, 10,000. Following Wisconsin are Minnesota (1,703); New Jersey (1,376); Texas (1,245); Illinois (1,101); Pennsylvania (883); Michigan (464); New Mexico (300); Colorado (277); Maine (258); Indiana (175); Connecticut (172); and Mississippi (100). Wisconsin, Minnesota, New Jersey, Pennsylvania, Colorado, and Maine did not provide information in 1997 on the number of identified brownfields sites in their respective states. In 1997, Texas reported only five sites identified; Michigan, 164; New Mexico, zero; and Indiana, 17.

Many other states greatly increased their number of brownfields sites identified in 2000 from the number reported in 1997. Mississippi increased from zero sites identified in 1997 to 100 sites identified in 2000. North Carolina increased from one site in 1997 to 55 sites in 2000. Florida increased from one site to 41 sites. Virginia increased from two sites to 22 sites. Missouri increased from eight sites in 1997 to 35 sites in 2000. New Hampshire increased from 12 sites to 21 sites. Connecticut increased from 144 sites to 172 sites.

A few states reported a decrease in the number of brownfield sites identified compared to the 1997 study. Delaware decreased from 300 sites in 1997 to 89 sites in 2000. New York decreased from 105 to 95.

Several of the states that identified the largest number of brownfield sites (Wisconsin, Minnesota, New Jersey, Texas, and Illinois) did not provide information on the number of sites with cleanup underway. Of the states that did provide information about cleanups underway, several are also among the states with the largest number of sites identified. The states reporting the largest numbers of cleanups underway at brownfields include: Michigan (464), Pennsylvania (287), Connecticut (60), and Colorado (51). Other states with a relatively large number of cleanups underway are Missouri (22), Delaware (20), Indiana (20), Rhode Island (20), New Hampshire (13), and Washington (13). Michigan, Connecticut, and Louisiana report identical numbers for sites identified and cleanups underway, suggesting that they identify a site only when the cleanup is underway.

Since site redevelopment is a cornerstone of most brownfields programs, the number of sites that have been redeveloped and the number of commitments for reuse are often an indication of the success of a program. New

Jersey has the highest number of sites redeveloped (393), followed by Colorado with 226. Of the states reporting the number of sites redeveloped, only two other states had more than 10 sites—Indiana with 15 and Rhode Island with 60. In almost all of the states reporting, the number of commitments for reuse was fairly low. Indiana reported the highest number of commitments with 140. Connecticut had 60, Missouri 32, Rhode Island 12, and Delaware 10. The rest of the states providing information had fewer than nine commitments for redevelopment.

Cleanup Standards

Almost all of the states use the same cleanup standards for their brownfields programs as they do for their voluntary cleanup programs. Nevada and Oklahoma determine the cleanup level on a case-by-case basis depending on the intended site use once redeveloped. Florida is currently conducting a rulemaking for its Brownfields Cleanup Criteria Rule that proposes to establish default cleanup target levels and authorize the establishment of alternative cleanup target levels on a site-specific basis. Pennsylvania allows more lenient cleanup standards for its brownfields sites than for sites under its VCP or mandatory program. At brownfields ("special industrial areas" in Pennsylvania) only imminent, direct, and immediate threats are required to be remediated and these do not include the cleanup of off-site groundwater.

Incentives

Almost all states with brownfields programs provide incentives for participation. These incentives fall into two general categories: liability relief and financial incentives. However, several states also use other types of incentives, as discussed below. Alabama has created an incentives commission to recommend future incentives but does not currently offer any incentives for its brownfields program.

Liability relief is a key incentive provided by states to encourage brownfields cleanup and redevelopment. The following states provide some type of liability relief: California (limited liability relief); Connecticut (covenant not to sue); Florida (liability protection from state and third party claims, no further action letters); Georgia (protection from third party liability); Indiana (letter to address liability); Louisiana (release of liability for costs of cleanup from historical contamination); Massachusetts (liability endpoints); Nevada (hold harmless letters, liability exemption); New Hampshire (covenant not to sue, lender liability protections); New York (liability protection/indemnification transferable to future owners); North Carolina (liability protection); Oklahoma (liability relief, covenant not to sue, liability protection for future owners); Pennsylvania (liability relief); Rhode Island (covenant not to sue); South Carolina (liability and contribution protection); Vermont (liability protection); and Washington (contribution protection; covenant not to sue).

Many states provide some type of financial incentive, including but not limited to, the following: Arizona (EPA-funded grants, loans, tax incentives); California (tax credits, grants, loans for cleanups); Colorado (tax credit for cleanup costs); Connecticut (bond funds); District of Columbia (grants, loans, tax credits to offset real property and business franchise taxes); Delaware (loans, tax credits); Florida (bonus refunds of $2,500 for each new job created in the state); Hawaii (federal grants, statue funds); Illinois (grants, loans); Indiana (free environmental assessments, grants, loans); Maryland (grants, loans); Massachusetts (fund, state-subsidized environmental insurance, tax credits); Michigan (grants, loans, tax increment financing, tax credits, tax abatement); Missouri (loans, tax credits); New Hampshire (tax abatements, hazardous waste fee exemptions, loans); New Jersey (grants, loans, partial reimbursement of remedial costs); New York (grants); North Carolina (delay to property tax increase); Oklahoma (tax breaks, loans, payments for industries on site of at least 10 acres); Oregon (grants, loans); Vermont (grant); West Virginia (loans, fund); and Wisconsin (grants, loans, tax increment financing, tax credits).

Other incentives include: bond funds to clean up sites vital to the economy (Connecticut); encouragement of local governments to offer economic incentives such as streamlined permitting, tax credits, and low interest loans (Florida); limiting cleanup to property only and not to the extent of the plume (Georgia); technical assistance (Vermont); and site assessment service (Virginia).

CHAPTER III: LONG-TERM STEWARDSHIP

Long-term stewardship refers to programs and activities for protecting public health, safety, and the environment at sites where the cleanup has left hazardous substances in place at levels that do not meet an unrestricted use standard and therefore requires some restrictions on the use of the site. The term is relatively new in the hazardous sites cleanup field, but it is intended to describe the diligence that will be needed to protect public health and the environment at such sites and the duration of the responsibility. Long-term stewardship includes the broad range of activities and controls that states are using to achieve these purposes, such as monitoring, institutional controls, enforcement, informational systems, markers, signs, and review and reevaluation of remedies. Some states may consider engineered controls, such as caps, to be part of long-term stewardship, but ELI did not ask for information about engineered controls as such. Monitoring engineered controls to assure that they remain functional and protective, on the other hand, is included within the scope of long-term stewardship for this study. Although few, if any, states currently use the term long-term stewardship for their programs and activities covering these functions, it is intended to capture the essential attributes of what is needed to meet the goal at such sites: protecting public health and the environment from residual risks so long as those risks remain at a site.

Long-term stewardship is of growing importance due to the increasing use of remedies, in mandatory, voluntary, brownfields, and even RCRA cleanup programs, that allow hazardous substances to remain in place at levels that do not allow for unrestricted use. The residual risk at such sites must continue to be managed to assure that human and environmental exposure to the hazardous substances does not exceed acceptable levels. Many states are expanding their efforts and capabilities to manage these risks over the long term. This chapter provides an overview of the laws, policies, and programs that states have to deal with long-term stewardship and actions that states are taking to meet the goals of protecting public health and safety and the environment.

Forty-one (41) states, including the District of Columbia, have long-term stewardship programs for one or more of their state cleanup, voluntary cleanup, or brownfields programs. Twenty-four (24) of these states also apply their long-term stewardship program to RCRA corrective actions. In addition, Oklahoma has a long-term stewardship program that covers only its RCRA corrective action program, although it allows the use of institutional controls at sites in its voluntary and brownfields programs. Furthermore, Colorado and Nebraska conduct long-term stewardship activities without having a program. Table IV-19 lists the cleanup programs and activities covered by each state's long-term stewardship program. Twenty-six (26) states have specific statutory authority for a long-term stewardship program, or for aspects of long-term stewardship such as institutional controls (Table IV-2). In 17 states the long-term stewardship program covers all four of the aforementioned non-NPL programs. A few states have long-term stewardship programs that apply to their voluntary program but not to their state cleanup program. These include Indiana, Missouri (also includes its brownfields program), New Mexico, West Virginia, and Wyoming.

Institutional controls are the most common long-term stewardship activity, with 43 states, including Colorado, Nebraska, and Oklahoma, which reported not having programs, relying on institutional controls to manage risks from residual contamination. Only New Mexico reported having a program for long-term stewardship at non-RCRA sites but does not use institutional controls. Thirty-nine (39) states, including Colorado and Oklahoma, also include monitoring of sites with residual contamination among their long-term stewardship activities. The District of Columbia, Florida, West Virginia, and Wyoming do not include monitoring as part of long-term stewardship. Fewer states, but still more than half of those that engage in long-term stewardship, make enforcement (25 states) or review and reevaluation of contamination levels (24 states) a part of long-term stewardship.

A. STAFFING AND FUNDING

Long-term stewardship programs are still in the development stage in most states. This is most evident in the staffing for these programs, which is provided in Table IV-20. Just fewer than half of the states with programs reported that long-term stewardship is part of the assigned duties of some staff members. Only 17 states reported that a specific amount of staff time is allotted to long-term stewardship activities and nine of those devote less than 1 full-time equivalent (FTE) to such activities. Only one state, Massachusetts, reported allocating more than five

FTEs to long-term stewardship. Massachusetts has committed far more staff time to long-term stewardship because of its unusual privatized program for oversight of most of the cleanups in the state. Massachusetts' integrated cleanup statute requires the Department of Environmental Protection to audit a sufficient number of such privately overseen cleanups to assure that they are being conducted in compliance with statutory and regulatory requirements. At a minimum the state is required to audit 20 percent of such cleanups each year. The mandate to conduct these audits is part of the reason that Massachusetts has committed far more FTEs to long-term stewardship than other states.

In addition to staffing, states were asked whether their budgets provided specific funding for long-term stewardship activities and, if so, how much. Of the 34 states that responded, 28 reported that there is no separate funding for long-term stewardship activities. Delaware reported that $20,000 is budgeted for long-term stewardship, the only state that reported a specific budget for this function, while Mississippi reported minimal funding for it. Missouri reported that it charges varying amounts of fees to voluntary participants depending on what type of controls will be used at a site. The staffing and funding information provided by the states indicates that although all but a few states recognize the need for long-term stewardship at sites where contamination is allowed to remain on-site, it is considered a priority by only a few states.

B. INSTITUTIONAL CONTROLS

Institutional controls are among the tools most commonly used by states to manage risks at sites with residual contamination. Institutional controls are defined by U.S. EPA as

> non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination by limiting land or resource use; are generally to be used in conjunction with, rather than in lieu of, engineering measures such as waste treatment or containment; can be used during all stages of the cleanup process to accomplish various cleanup-related objectives, and should be 'layered' (i.e., use multiple ICs) or implemented in a series to provide overlapping assurances of protection from contamination.

U.S. EPA, *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups*, EPA 540-F-00-005 (September 2000). EPA notes that its definition does not include physical barriers or fences.

EPA's definition of institutional controls focuses on legal and administrative instruments at least in part because CERCLA requires the use of "enforceable measures" as part of a remedy that allows contamination to remain at a site at levels above those that would allow for unrestricted use. This limitation does not apply to cleanups of non-NPL sites conducted under the authority of state laws. EPA's definition of institutional controls remains useful, however, as a functional definition to describe some of the types of non-engineering measures used to minimize exposure to contamination, even if it is not necessarily accepted or used by states. Some states do not use the term institutional controls, while others use different terms, such as "activity and use limitations," to refer to measures used to accomplish these purposes, and other states may include other tools within their definition of institutional controls. For example, Massachusetts defines an "Activity and use limitation" as "a restriction, covenant or notice concerning the use of real property which is imposed upon real property by a property owner or the department" in accordance with the state's superfund law. Another example of how states differ from the federal government in their use of institutional controls is that 17 states reported that they allow institutional controls to be the sole remedy at some sites. EPA's definition does not prohibit this practice, but indicates that at NPL sites institutional controls generally are to be used in conjunction with treatment or containment.

The Environmental Law Institute first focused attention on the use of institutional controls by states as a potential method of managing residual risk at contaminated sites in 1986 with the issuance of *Preliminary Report: Institutional Groundwater Use Controls in Three Selected States*, followed by *Survey and Analysis of State Groundwater Programs* (1990), *Survey and Analysis of State Groundwater Classification Systems and Program Operations* (1990), and *Institutional Controls in Use* (1995). This study is the first comprehensive examination of state programs and activities directed at minimizing the risk of exposure to residual contamination at non-NPL sites.

Table IV-21 includes detailed information about the institutional controls component of state long-term stewardship programs. Thirty-eight (38) states reported using proprietary institutional controls, such as requiring landowners to include in their deeds restrictions on the use of the land. Of the states that reported using institutional

controls, only Colorado, Nevada, Utah, West Virginia, and Wisconsin did not report using property law-based institutional controls. On the other hand, Nebraska reported using proprietary institutional controls even though it did not report having a long-term stewardship program.

States use a variety of specific types of property-law-based institutional controls. Many continue to rely on traditional common-law-based methods of restricting the use of property. These methods, including restrictive covenants, reversionary interests, and easements developed to serve interests, primarily of property owners, that were far different than the governmental interest in reducing the risk to users of land of exposure to hazardous substances. For this reason the rules governing these traditional techniques sometimes conflict with the purposes of institutional controls or can increase the possibility that the control will fail to accomplish its environmental protection goal. Nineteen (19) states use restrictive covenants, eight use easements, two use reversionary interests, and 10 use other types of property-law based restrictions, typically statutorily created for this specific purpose. In Tennessee, for example, when the state determines that land use restrictions are appropriate, the state or the owner of property must file a notice of land use restrictions with the register of deeds that includes information about the location, type, and quantity of hazardous substances on the site and the restrictions on the use of the site. Although called a "notice," the statute provides that the land use restrictions are enforceable by any owner of the land, the state, any local government with jurisdiction over any part of the property, and any person eligible for liability protection with respect to the property.

Informational systems, including signs, educational materials, published notices, warnings about consumption of fish or wildlife, site registries, and databases, were used by 33 states. A notice that hazardous substances exist on a site is sometimes placed in the deed to the site, or recorded with the official property records. Such so-called "deed notices" function as informational systems because they provide information to property owners and prospective purchasers, but do not require that they take action or avoid taking any action. This type of informational system overlaps with, and in many states is the same as, property transfer disclosure laws (see Chapter II, H. Enforcement, Property Transfer Provisions). For example, in Michigan, a seller who knows that hazardous substances were released in a reportable quantity must not only provide notice to the purchaser, but also record the notice with the deed of transfer. Upon completion of cleanup, the owner records a certificate of completion of an approved remedial action. New York requires county clerks to index in the land records any sites listed on the Registry of Inactive Hazardous Waste Sites. In Iowa, a conveyor of real property is required to provide the recorder of deeds with a statement regarding the existence of wells, disposal sites, underground storage tanks, and hazardous wastes; the recorder must notify the transferee and the State if these are present. In Tennessee, the Commissioner of TDEC is required to notify the register of deeds in the county where property has been listed on the state list and requires the register to record a notice that the property has been listed. Some states, however, refer to deed notices as proprietary institutional controls because the notice is provided through the deed or the property records system. This can be misleading if it leads anyone to think that a deed notice has any mandatory effect. Informational systems are useful for informing owners, purchasers, potential users, and others who could potentially be exposed to residual contamination of its existence at a site. Informational systems such as site registries and databases of the location of hazardous substances also preserve information for use in the future when standards, treatment and destruction technologies, and land uses may change.

Governmental or regulatory institutional controls, such as zoning, local ordinances, building permits, and well drilling or groundwater use restrictions, were reported as being used by 29 states. Thirty (30) states use restrictions on well drilling or the use of groundwater as institutional controls, including New Jersey and Tennessee, which did not report using the general category of regulatory restrictions. Of the states that reported using governmental restrictions, only South Carolina does not use well drilling or groundwater restrictions. A few states noted that zoning and local ordinances could be implemented by local governments but would not be imposed or required by the state as an institutional control. This suggests that there may be a difference between the types of institutional controls selected as part of remedies at non-NPL sites and at NPL sites, where ELI and others have documented reliance on local government controls such as zoning. Only nine states reported that they use zoning as an institutional control, and even some of those, such as Oklahoma, note that zoning and building permits are used only at the request of the local government and that the state provides technical assistance.

Using more than one type of institutional control at a site is one method of dealing with the possibility that any institutional control may fail at some time during the period when it is needed to manage risk at a site. Institutional

controls can fail due to many reasons related to implementation or to the intended receptors. Proprietary controls may fail because the original property owner failed to record the use restriction in the appropriate property records or because a subsequent user, who may not be the owner of record, did not know of the restrictions. Governmental controls, such as restrictions on drilling wells, may fail because those subject to the rules do not know the rule exists or because they chose to ignore it. Informational systems can fail either because the intended recipients do not receive the information, do not understand it, or choose to ignore it. The use of different types of institutional controls, building in redundancy or layering, is intended to militate against the risk that any single control will fail by having other controls that operate in different ways. Twenty (20) states reported layering or using more than one type of institutional control at least at some sites. A few states, including Oklahoma, Tennessee, and Vermont, have policies of using multiple institutional controls at all sites. Several other states, including Alabama, Delaware, Florida, Nebraska, and New Jersey, follow the policy stated most explicitly by Oregon, of increasing the degree of redundancy or layering as the residual risk increases.

Another strategy for dealing with the possibility that an institutional control will fail is to audit sites to assure that the remedy, including engineering and institutional controls, remain effective. Seventeen (17) states have established schedules for auditing sites where institutional controls have been implemented, including seven that review such sites at least annually (Table IV-21). Another three states are in the process of establishing systems to review such sites annually and a few other states are developing their audit policies. Interestingly, the preferred review period is bi-modal, with seven states choosing to review sites with institutional controls at least every five years, the same period as is required for NPL sites with residual hazardous substances at levels above what is allowed for unrestricted use.

One of the reasons that institutional controls have failed in the past has been because people forgot the contamination existed and information about it was not recorded, lost, or ignored. Many states have therefore created systems for keeping track of institutional controls and the sites where they are in use (Table IV-20). Twenty-four (24) states reported that their long-term stewardship program includes a system for recording and maintaining information about which sites have institutional controls. This includes Colorado, which has no program but conducts long-term stewardship activities. In most states this system relies on a database, but in at least one state the information is recorded in a notebook. Most of the states (19) that have such tracking systems make them available to the public, although for most of them the primary intended user is state staff. A majority of the states that have a tracking system use it for all sites covered by their long-term stewardship program, and many states also include federal facilities in their tracking system. Several states do not include sites in their mandatory cleanup program and some do not include their RCRA corrective action sites in the tracking system, even where RCRA is included within the long-term stewardship program. State tracking systems most commonly include information about monitoring institutional controls at the site (12 states), followed by implementation information (eight states), and enforcement (seven states).

C. REOPENERS

Although states generally consider cleanup to be complete when institutional controls have been implemented, most states (39) reserve the right to require additional work at a site under certain conditions. This practice is sometimes referred to as reopening the document indicating that no further action was necessary at the site. Among the conditions for which states reserve the right to reopen a cleanup decision are: the owner chooses to remediate the site to meet the residential (unrestricted use) standard; discovery of new contamination; discovery of previously unknown contamination; change in land use; new information; fraud; changes in standards; failure to record proprietary controls in property records; failure to maintain the engineering or institutional controls; off-site migration of contamination; violation of deed restriction or other institutional control; failure of the remedy to protect human health or the environment; and a new release at a non-industrial site where treatment, removal, or destruction has become economically or technologically feasible (Table IV-21). Sixteen (16) states stated that a change in land use would cause them to reopen the decision that no further action was needed at the site. Discovery of new information was listed as a condition for reopening a decision by 11 states. In addition, 10 states will reopen the decision if the remedy is not protective, nine states will reopen the decision upon discovery of new contamination and eight states

will do so upon discovery of previously unknown existing contamination. Seven (7) states also said they would reopen the decision if the institutional controls failed or were violated.

D. SUMMARY

The results of this study of long-term stewardship by states indicate that most states recognize the need to carry out this function, but that many states are still in the process of determining how to do so. Many states have statutory authority to provide long-term stewardship at sites that need it. Institutional controls are recognized by most states as one of the principal tools for accomplishing long-term stewardship and many states have statutory provisions governing institutional controls. In addition, many states have made long-term stewardship part of the assigned duties for some cleanup program staff. On the other hand, fewer than half of the states that conduct long-term stewardship activities have allocated specific amounts of staff time to be spent on such activities and only one state has budgeted a specific amount for this function. Furthermore, many states are still developing important elements of their long-term stewardship programs, including systems for keeping track of sites subject to long-term stewardship and systems for inspecting or auditing such sites or their institutional controls. Finally, although a few states, such as Massachusetts and New Jersey, have several years of experience implementing their long-term stewardship programs, most states have limited experience in implementing long-term stewardship.

CHAPTER IV: STATE PROGRAM TABLES

This Chapter consists of 21 Tables summarizing the information collected as part of this study. The Tables include all 50 states, the District of Columbia, and the Commonwealth of Puerto Rico, and are organized by EPA Region. The Tables have been designed to provide information at a glance and to be self-explanatory. Nevertheless, ELI recommends that readers consult the sections of Chapters II and III that relate to specific Tables as those sections provide additional explanation, clarification, analysis, and comparison to prior years' studies. For state-specific information, readers should consult the individual state summaries in Chapter V.

TABLE IV-1: OVERVIEW OF STATE PROGRAMS

Summary

This table provides an overview of four key elements of state cleanup programs: staffing level; fund balance; cleanup activities in FY00; and sites needing attention. This table provides a useful comparison of state programs when the elements are viewed as integral parts of each state's program. These elements were not selected for the purpose of evaluating the effectiveness of state programs. This tabulation of state information provides a picture of the general programmatic direction and activity levels of state programs. The table headings are defined as follows:

- "Staffing Level" indicates the number of full-time program staff and attorneys who work on each state program. Staffing levels range from South Dakota with 3.5 to New Jersey with 555. (Attorneys in both state cleanup programs and State Attorney General's Offices are included in this figure.) There is a possibility of double counting, as some states may have counted attorneys who work full-time on superfund programs as staff.

- "Fund Balance" lists the balance of each state's cleanup fund at the end of FY00. If a state has multiple cleanup funds, this column indicates the sum of the balances. The balances, which range from zero to more than $200M, do not signify the extent of cleanup activity on their own. The fund balance may be small because significant cleanup expenditures were made during the year, or it may be large because little activity occurred during the year. A state's balance amount is meaningful only when viewed in conjunction with the number of actions taken by the state, and as an indicator of future financial capability.

- "Cleanup Activities in FY00" lists the number of cleanups completed in FY00. These numbers, ranging from zero to 2,333, when used with the state's fund balance and staffing levels, provide one gauge of the state's cleanup capacity.

- "Sites Needing Attention" lists the number of sites the state identified as needing attention. Sites identified as needing attention range from 12 to 3,900.

Table IV-1: Overview of State

Region	State	Staffing Levels	Fund Balance	Cleanup Activities in FY00	Sites Needing Attention
1	Connecticut	39	$24,170,610		2,107
	Maine	7.2	$9,270,375	47	83
	Massachusetts	241	$53,900,000	463	2,305
	New Hampshire	21	$7,800,000	46	388
	Rhode Island	8		22	150
	Vermont	17.5	$1,696,000	9	250
2	New Jersey	555	$189,093,523	2,333	3,900
	New York	343	$217,009,586	19	851
	Puerto Rico				
3	Delaware	30	$13,000,000	28	331
	District of Columbia				
	Maryland	37	$1,816,898	11	33
	Pennsylvania	132	$110,000,000	240	20
	Virginia	18.25	$0	11	411
	West Virginia				
4	Alabama	27	$450,000	24	125
	Florida	75	$15,006,808		2,460
	Georgia	40	$12,762,010	12	422
	Kentucky	28.5	$1,500,000	25	1,500
	Mississippi	14	$112,800	22	500
	North Carolina	50	$10,430,858	95	730
	South Carolina	55.5	$5,000,000	8	516
	Tennessee	58	$12,082,752	32	210
5	Illinois	126	$24,033,600	187	159
	Indiana	31	$41,350,404	15	61
	Michigan	241	$133,172,000	119	
	Minnesota	79	$12,800,000	13	100

Table IV-1: Overview of State

Region	State	Staffing Levels	Fund Balance	Cleanup Activities in FY00	Sites Needing Attention
5	Ohio	17.5		21	403
	Wisconsin	15.5	$26,542,200	250	
6	Arkansas	10			67
	Louisiana	46	$3,851,299	3	130
	New Mexico	11.5	$1,623,000	12	153
	Oklahoma	38	$313,450	26	170
	Texas	120	$55,721,609	112	48
7	Iowa	11.25	$89,484	8	210
	Kansas				
	Missouri	33	$2,900,000	19	250
	Nebraska	13.5		1	225
8	Colorado	34	$16,119,065	40	200
	Montana	21	$14,506,467	3	288
	North Dakota	6	$163,000	8	
	South Dakota	3.5	$2,835,732	127	229
	Utah	37	$400,000	5	50
	Wyoming	6		0	
9	Arizona	72	$17,895,429	4	38
	California	320	$84,548,000	19	522
	Hawaii	30	$1,981,063	1	105
	Nevada	8			12
10	Alaska	41.5	$64,955,963	48	783
	Idaho				
	Oregon	82	$22,242,558	64	499
	Washington	145	$22,000,000	30	623

TABLE IV-2: STATUTORY AUTHORITIES AND PROVISIONS

Summary

- Forty-nine (49) states, including Puerto Rico, have cleanup funds authorized by statute.
- All 50 states, the District of Columbia, and Puerto Rico have state laws that provide enforcement authorities.
- Twenty-nine (29) states have statutory provisions for a priority list.
- Twenty-one (21) states report some authority in their cleanup-related statutes for citizen suits.
- Thirty-three (33) states have some mandatory provisions governing property transfers.
- Forty-nine (49) states, including the District of Columbia, have statutory authorities for voluntary cleanup programs and 30 states, also including the District of Columbia, have statutory authorities for brownfields (other states have adopted such programs by regulation or policy).
- Twenty-six (26) states have statutory authorities for long-term stewardship (other states have created long-term stewardship programs or conduct related activities as a matter of policy, see Table IV-19).

Table IV-2: Statutory Authorities and Provisions

Reg.	State	Statute Name	Cleanup Fund	Enforce. Author.	Prior. List	LTS	Vol. Cleanup	Brown-fields	Citizen Suits	Prop. Trans.
1	CT	Emergency Spill Response Fund	X	X						
		Public Act 87-561		X	X					
		Public Act 98-134 (Reporting of Certain Significant Environmental Hazards)								
		Public Acts to establish Voluntary Cleanup and Licensed Environmental Professional Programs					X			
		Transfer of Hazardous Waste Establishments		X						X
		Urban Sites Remedial Action Program	X				X			X
		Water Pollution Control Laws	X							
	ME	Uncontrolled Hazardous Substance Sites Act	X	X		X				
		Voluntary Response Action Program					X			
	MA	Oil and Hazardous Material Release Prevention and Response Act	X	X	X		X	X	X	
	NH	Brownfields Program		X		X	X	X		X
		Hazardous Waste Cleanup Fund Act	X	X			X			
	RI	Hazardous Waste Management Act	X	X						
		Industrial Property Remediation and Reuse Act		X			X	X		X
	VT	Act Relating to Administrative Enforcement of Specified Environmental Laws		X						
		Waste Management Act		X			X	X		X
		Water Pollution Control Law	X							
2	NJ	Brownfield and Contaminated Site Remediation Act				X	X	X		
		Environmental Rights Act							X	
		Industrial Site Recovery Act								X
		Spill Compensation and Control Act	X	X	X		X			
		Water Pollution Control Act		X						
	NY	1986 Environmental Quality Bond Act	X							
		Abandoned Sites Act of 1979		X	X					X
		Environmental Conservation Law	X	X			X	X		X
		New York State Superfund Act of 1982 and 1985 Amendments	X							
	PR	Environmental Emergencies Fund Act	X							
		Public Policy Environmental Act		X						
3	DE	Hazardous Substance Cleanup Act	X	X	X		X	X		X
	DC	Brownfields Revitalization Amendment Act of 2000		X		X	X	X		
		Hazardous Waste Management Act		X						
	MD	Brownfields Revitalization Incentive Program						X		
		Controlled Hazardous Substances	X	X	X					
		Voluntary Cleanup Program				X	X			
	PA	Hazardous Sites Cleanup Act	X	X	X	X	X		X	X
		Land Recycling and Environmental Remediation Standards Act	X				X			X
	VA	Environmental Response Emergency Fund Act	X							
		Waste Management Act		X			X			
	WV	Groundwater Protection Act								
		Hazardous Waste Emergency Response Fund Act	X							

Table IV-2: Statutory Authorities and Provisions

Reg.	State	Statute Name	Cleanup Fund	Enforce. Author.	Prior. List	LTS	Vol. Cleanup	Brown-fields	Citizen Suits	Prop. Trans.
3	WV	Hazardous Waste Management Act		X						X
		Voluntary Remediation and Redevelopment Act				X	X	X		
4	AL	Alabama Land Recycling and Economic Redevelopment Act				X	X	X		
		Dry Cleaners Environmental Response Trust Fund Act	X		X					
		Hazardous Substances Cleanup Fund	X	X			X			
		Hazardous Waste Management and Minimization Act		X						
	FL	Brownfields Redevelopment Act				X	X	X		
		Environmental Control		X					X	
		Pollutant Discharge Prevention and Removal Act	X	X	X	X	X	X		
	GA	Georgia Hazardous Waste Management Act		X						
		Hazardous Site Response Act of 1992	X	X	X					X
		Hazardous Site Reuse & Redevelopment Act of 1996					X			
	KY	Kentucky Revised Statute 224.01-400		X						
		Kentucky Revised Statute 224.46-580	X							
		Voluntary Environmental Remediation Act				X	X			
	MS	Air and Water Pollution Control Act	X	X			X			
		Brownfields Voluntary Cleanup and Redevelopment Act				X	X	X		X
		Solid Waste Disposal Act of 1974	X	X			X			
	NC	Brownfields Property Reuse Act				X		X	X	
		Inactive Hazardous Sites Response Act of 1987	X	X	X	X	X			X
		Solid and Hazardous Waste Management Act	X	X		X				
	SC	Dry Cleaning Facility Restoration Trust Fund	X		X					
		Hazardous Waste Management Act	X	X	X		X	X		X
	TN	Hazardous Waste Management Act of 1983 Part 2	X	X	X	X	X	X		X
5	IL	Brownfield Redevelopment Grant Program					X	X		
		Environmental Protection Act, Title XII	X	X			X	X		X
		Groundwater Protection Act		X						
		Proportionate Share Liability Act		X						
		Responsible Property Transfer Act		X						X
		Drycleaner Environmental Response Trust Fund Act						X		
	IN	Brownfields Tax Credit						X		
		Environmental Legal Actions Act							X	
		Responsible Property Transfer Law								X
		Hazardous Substances Response Trust Fund	X	X						
		Voluntary Remediation of Hazardous Substances and Petroleum					X			
	MI	Brownfield Redevelopment Act	X					X		
		Natural Resources and Environmental Protection Act	X	X	X	X	X	X	X	X
		Obsolete Property Rehabilitation Act	X					X		
		Single Business Tax Amendment	X					X		

Table IV-2: Statutory Authorities and Provisions

Reg.	State	Statute Name	Cleanup Fund	Enforce. Author.	Prior. List	LTS	Vol. Cleanup	Brown-fields	Citizen Suits	Prop. Trans.
5	MN	Minnesota Environmental Response and Liability Act	X	X	X	X	X	X	X	X
	OH	Brownfield Site Cleanup Tax Credit Program /Brownfield Grant Assistance Program						X		
		Environmental Protection Agency Act		X		X			X	
		Solid and Hazardous Waste Disposal	X	X			X			
		Voluntary Action Program	X				X			X
		Water Pollution Control		X						
	WI	Brownfield Site Assessment Grant Program						X		
		Dry Cleaner Environmental Response Program	X							
		Land Recycling Loan Program						X		
		Remedial Action Statute	X	X		X	X	X		X
6	AR	Environmental Law	X	X	X				X	
		Voluntary Cleanup Law				X	X	X		X
	LA	Citizen Suits, La. R.S. 30:2026							X	
		Hazardous Waste Control Law	X							
		Inactive and Abandoned Hazardous Waste Site Law		X						
		Recordation of Notice of Solid or Hazardous Waste Site by Landowner, La. R.S. 30:2039								X
		Voluntary Investigation and Remedial Action Act					X			
	NM	Environmental Improvement Act		X						
		Hazardous Waste Act	X	X						
		Voluntary Remediation Act					X			
		Water Quality Act		X					X	
	OK	Brownfields Voluntary Redevelopment Act						X		X
		General Regulation and Enforcement		X						X
		Hazardous Waste Fund Act	X							
		Hazardous Waste Management Act		X						X
		Solid Waste Management Act		X						X
	TX	Hazardous Substances Spill Prevention and Control Act	X	X		X				
		Solid Waste Disposal Act	X	X	X		X			
7	IA	Environmental Quality Act	X	X	X	X			X	X
		Groundwater Hazard Documentation Law								X
		Land Recycling and Environmental Remediation Standards Act					X			
	KS	Environmental Response Act	X	X						
		Kansas Drycleaner Environmental Response Act	X		X					
		Kansas Water Plan	X							
		Voluntary Cleanup and Property Redevelopment Act					X			
		Water Pollution Control Statutes		X						
	MO	Brownfields, Abandoned and Redevelopment Projects						X		
		Hazardous Waste Management Law	X	X	X		X			X
	NE	Environmental Protection Act		X						
		Voluntary Cleanup Program: Remedial Action Plan Monitoring Act					X			

Table IV-2: Statutory Authorities and Provisions

Reg.	State	Statute Name	Cleanup Fund	Enforce. Author.	Prior. List	LTS	Vol. Cleanup	Brown-fields	Citizen Suits	Prop. Trans.
8	CO	Hazardous Waste Sites Act	X							
		Hazardous Waste Management Act		X						
		Senate Bill 01-145				X				
		Voluntary Cleanup and Redevelopment Act	X		X		X	X		
		Water Quality Control Act		X						
	MT	Comprehensive Environmental Cleanup and Responsibility Act	X	X	X	X			X	X
		Controlled Allocation of Liability Act	X							
		State Participation in CERCLA	X	X	X				X	X
		Voluntary Cleanup and Redevelopment Act					X			X
		Water Quality Act		X					X	
	ND	Hazardous Waste Management Act		X						
		Water Pollution Control Law		X						
		Environmental Quality Restoration Fund	X							
	SD	Environmental Livestock Cleanup Fund	X			X				
		Environmental Protection Act					X		X	
		Hazardous Waste Management Act		X						
		Regulated Substance Discharge Law	X							X
		Solid Waste Management Act		X						
		Water Pollution Control Act		X						
	UT	Hazardous Substances Mitigation Act	X	X	X		X			
		Voluntary Release Cleanup Act					X			
	WY	Environmental Quality Act	X	X					X	
		Voluntary Remediation of Contaminated Sites					X			
9	AZ	Brownfields Cleanup Revolving Loans Fund Program						X		
		Environmental Liens		X						X
		Environmental Quality Act	X	X	X		X		X	X
		Greenfield Pilot Program					X			
		Voluntary Remediation Program					X	X		X
	CA	Health and Safety Code	X	X	X	X	X	X	X	X
	HI	Environmental Response Law	X	X	X		X			X
		Voluntary Response Program	X	X	X		X		X	X
	NV	Hazardous Materials Provision	X	X			X			
		Program for Voluntary Cleanup of Hazardous Substances and Relief from Liability					X			
		Water Pollution Control		X						

Table IV-2: Statutory Authorities and Provisions

Reg.	State	Statute Name	Cleanup Fund	Enforce. Author.	Prior. List	LTS	Vol. Cleanup	Brown-fields	Citizen Suits	Prop. Trans.
10	AK	Liability and Cost for Oil and Hazardous Substance Discharge Law		X						
		Oil and Hazardous Substance and Pollution Control Law	X							
		Oil and Hazardous Substance Release Control Law		X						
		Oil and Hazardous Substances Releases Law	X		X		X			
	ID	Environmental Protection and Health Act		X						
		Hazardous Waste Management Act		X					X	
		Land Remediation Act					X			X
	OR	Brownfields Redevelopment						X		
		Hazardous Substance Cleanup Law	X	X	X	X	X	X		X
	WA	Model Toxics Control Act	X	X	X	X	X	X	X	X

TABLE IV-3: HAZARDOUS SITES

Summary

- States identify ~ 63,000 known and suspected sites, a decline from ~69,000 identified in 1997, ~85,000 identified in 1995, and ~100,000 identified in 1993 (see further discussion in Chapter II, C).
- The number of known and suspected sites in each state ranges from zero to 5,416 (Connecticut).
- States identify ~23,000 sites as needing attention, a decline from ~24,000 sites identified in 1997, ~30,000 identified in 1995, and ~40,000 identified in 1993 (see further discussion in Chapter II, C).
- The number of sites needing attention in each state ranges from zero to 3,900 (New Jersey).
- Only five states have more than 1,000 sites identified as "needing attention" (Connecticut, Florida, Kentucky, Massachusetts, and New Jersey).
- Thirty-seven (37) states maintain some kind of officially sanctioned inventory, priority list, or registry. However, the numbers on these lists are not comparable and cannot be aggregated because state definitions vary widely; some lists include sites where no activity is required, while others include only sites where the state is funding cleanup.

Table IV-3: Hazardous Sites

Reg.	State	Proposed NPL Sites	Final NPL Sites	Known and Suspected State Sites	State Sites Identified as Needing Attention	State Inventory or Priority List
1	Connecticut	1	15	5,416	2,107	672
	Maine	1	12	475	83	475
	Massachusetts	2	31	2,305	2,305	441
	New Hampshire	1	18	388	388	388
	Rhode Island	0	12	1,200	150	
	Vermont	0	9	390	250	250
2	New Jersey	5	111	5,000	3,900	1838
	New York	4	87	1,628	851	945
	Puerto Rico	0	8			
3	Delaware	0	16	532	331	439
	District of Columbia	0	1			
	Maryland	2	17	440	33	15
	Pennsylvania	3	96	50	20	6
	Virginia	0	30	2,015	411	130
	West Virginia	0	9			
4	Alabama	2	13	730	125	
	Florida	1	51	2,646	2,460	46
	Georgia	1	14	1,280	422	532
	Kentucky	0	14	2,200	1,500	750
	Mississippi	2	2	1,100	500	200
	North Carolina	1	26	1,122	730	450
	South Carolina	0	25	1,037	516	516
	Tennessee	1	13	1,501	210	124
5	Illinois	6	39	5,000	159	70
	Indiana	1	28	200	61	61
	Michigan	2	67			2,890
	Minnesota	0	24	3,000	100	84
	Ohio	4	29	1,884	403	
	Wisconsin	2	38	3,000		
6	Arkansas	0	12	415	67	11
	Louisiana	2	13	730	130	730
	New Mexico	2	11	1,210	153	30
	Oklahoma	1	11	850	170	
	Texas	3	38	611	48	49
7	Iowa	2	13	475	210	72
	Kansas	2	10			
	Missouri	1	22	2,321	250	855
	Nebraska	0	10	475	225	

Table IV-3: Hazardous Sites

Reg.	State	Proposed NPL Sites	Final NPL Sites	Known and Suspected State Sites	State Sites Identified as Needing Attention	State Inventory or Priority List
8	Colorado	2	15	495	200	53
	Montana	1	13		288	208
	North Dakota	0	0			
	South Dakota	0	2	1,342	229	
	Utah	6	15	390	50	13
	Wyoming	0	2			
9	Arizona	0	10	71	38	33
	California	3	96	3,603	522	242
	Hawaii	0	3	558	105	5
	Nevada	0	1	112	12	
10	Alaska	0	7	968	783	968
	Idaho	4	6			
	Oregon	1	11	2,469	499	264
	Washington	0	48	946	623	276

TABLE IV-4: ACTIONS TAKEN AT NON-NPL SITES

Summary

Mandatory Hazardous Substance Cleanup Programs

- The number of cleanups underway ranges from zero (Nebraska, New Hampshire, North Carolina, and Vermont) to 2,500 (New Jersey).
- The number of cleanups completed during FY00 ranges from zero (Colorado, Arizona, Montana, Nebraska, New Hampshire, North Carolina, Vermont, and Virginia) to 1,633 (New Jersey).
- The number of cleanups completed since the start of a state's program ranges from zero (Colorado, Maryland, Nebraska, New Hampshire, North Carolina, Vermont, and Virginia) to 7,500 (New Jersey).
- The total number of cleanups reported by all states as of the end of FY00:
    - Cleanups underway: approximately 8,500.
    - Cleanups completed during last fiscal year: approximately 2,400.
    - Cleanups completed since start of program: approximately 17,300 (see further discussion in Chapter II, C).

Voluntary cleanup programs only

- The number of voluntary cleanups underway ranges from one (South Dakota) to 1,658 (Massachusetts).
- The number of voluntary cleanups completed during FY00 ranges from zero (Hawaii, Louisiana, and South Dakota) to 700 (New Jersey).
- The number of voluntary cleanups completed since the start of a state's program ranges from one (Hawaii and Iowa) to 3500 (New Jersey)
- The total number of voluntary cleanups reported by all states as of the end of FY00 was:
    - Cleanups underway: approximately 7,100.
    - Cleanups completed during last fiscal year: approximately 2,200.
    - Cleanups completed since start of program: approximately 11,600.

Total Cleanups since start of both voluntary and mandatory cleanup programs

- The number of total cleanups ranges from zero (Wyoming) to 11,000 (New Jersey).
- Total cleanups since start of all programs: approximately 29,000 (see further discussion in Chapter II, C).

Table IV-4: Cleanup Activities

		Mandatory Hazardous Substance Cleanup Programs			Voluntary Cleanup Programs			
Reg.	State	Cleanups Underway	Cleanups Completed Last Fiscal Year	Cleanups Completed Since Start of Program	Cleanups Underway	Cleanups Completed Last Fiscal Year	Cleanups Completed Since Start of Program	Total Cleanups Since Start of Program
1	CT				151		5	5
	ME	38	6	77	23	41	202	279
	MA	192	13	207	1,658	450	2,880	3,087
	NH	0	0	0	286	46	344	344
	RI	58	19	512	18	3	8	520
	VT	0	0	0	12	9	139	139
2	NJ	2,500	1,633	7,500	1,400	700	3,500	11,000
	NY	256	15	373	65	4	50	423
	PR							
3	DE	42	10	47	61	18	61	108
	DC							
	MD	1	2	0	8	9	39	39
	PA	20	10	110	491	230	1,000	1,110
	VA	30	0	0	68	11	44	44
	WV							
	AL	32	22	200	5-10*	2-3*	35-40*	~235
4	FL	1,263		1,859				1,859
	GA	272	12	113	2			113
	KY	110	25	700				700
	MS	44	16	101	24	6	42	143
	NC	0	0	0	64	95	392	392
	SC	56	5	37	34	3	13	50
	TN	145	12	108	81	20	29	137
5	IL	52	16	111	564	171	707	818
	IN	33	1	7	223	14	54	61
	MI	575	119	382				382
	MN	556	13	119	85		264	383
	OH	150		41	31	21	180	221
	WI	500	240	1,975	100	10	25	2,000
	AR							
6	LA	3	3	196	7	0	0	196
	NM	11	10	137	9	2	3	140
	OK				87	26	110	110
	TX	27	8	57	690	104	586	643

Table IV-4: Cleanup Activities

		Mandatory Hazardous Substance Cleanup Programs			Voluntary Cleanup Programs			
Reg.	State	Cleanups Underway	Cleanups Completed Last Fiscal Year	Cleanups Completed Since Start of Program	Cleanups Underway	Cleanups Completed Last Fiscal Year	Cleanups Completed Since Start of Program	Total Cleanups Since Start of Program
7	IA	197	7	49	13	1	1	50
	KS							
	MO	18			142	19	91	91
	NE	0	0	0	15	1	3	3
8	CO	2	0	0	51	40	226	226
	MT	6	0	41	4	3	17	57
	ND	9	8	43				43
	SD	223	127	1,101	1	0	0	1,101
	UT				34	5	22	22
	WY				11	0	0	0
9	AZ	10	0	4	58	4	50	54
	CA		8	216		11	82	298
	HI	25	1	1	5	0	1	2
	NV				112			
10	AK	728	33	598	73	15	40	638
	ID							
	OR	158	7	90	242	57	302	392
	WA	215	23	266	109	7	54	320

* These numbers represent Alabama's informal program – to be replaced by formal program.

TABLE IV-5: PROGRAM ORGANIZATION

Summary

- Program staff levels range from 2.5 (South Dakota) to 537 (New Jersey) FTE staff members.
- Seven (7) states reported program staff levels at or below 10 FTE.
- The overall program staff level reported was 3,344 FTE, down from 3,474 in 1997.
- Eighteen (18) states reported that they employ the full number of FTEs authorized.
- Total legal support was 178 FTE attorneys, down from 206 in 1997.
- Fifteen (15) states rely solely on the responsible agency for legal support.

Table IV-5: Program Organization

Reg.	State	Agency Name	Program Office	FTE Staff Employed/ Authorized	Legal Support Office	FTE Attorneys
1	CT	Department of Environmental Protection	Bureau of Water Management, Permitting Enforcement and Remediation Division, Remediation Section	37 / 41	Office of the Attorney General; DEP Counsel to the Commissioner	2
	ME	Department of Environmental Protection	Bureau of Remediation and Waste Management, Division of Remediation	7 / 8	Office of the Attorney General	0.2
	MA	Department of Environmental Protection	Bureau of Waste Site Cleanup	220 / 270	Office of the Attorney General; DEP Office of General Counsel	21
	NH	Department of Environmental Services	Hazardous Waste Remediation Bureau, Waste Management Division	19 / 19	Department of Justice	2
	RI	Department of Environmental Management	Bureau of Environmental Protection, Office of Waste Management	7 / 9	DEM Office of Legal Services	1
	VT	Agency of Natural Resources	Waste Management Division, Sites Management Section	16 / 16	Office of the Attorney General; DEC Enforcement Division; DEC Waste Management Division	1.5
2	NJ	Department of Environmental Protection	Divisions of Publicly Funded and Responsible Party Site Remediation, Site Remediation Program	537 / 537	Department of Law and Public Safety, Division of Law, Hazardous Site Litigation Section	18
	NY	Department of Environmental Conservation	Division of Environmental Remediation	321 / 347	Department of Law; DEC Division of Environmental Enforcement	22
	PR	Environmental Quality Board				
3	DE	Department of Natural Resources and Environmental Control	Division of Air and Waste Management, Site Investigation and Restoration Branch	29 / 31	Office of the Attorney General	<1
	DC	Department of Health	Bureau of Hazardous Materials and Toxic Substances, Clean Lands Program		Corporation Counsel	
	MD	Department of the Environment	Waste Management Administration, Environmental Restoration and Redevelopment Program	35 / 35	Office of the Attorney General	2
	PA	Department of Environmental Protection	Bureau of Land Recycling and Waste Management, Division of Land Recycling and Cleanup Programs	120 / 120	DEP Office of Chief Counsel	12
	VA	Department of Environmental Quality	Division of Special Programs, Office of Remediation Programs	18 / 18	Office of the Attorney General	0.25
	WV	Department of Commerce, Labor, and Environmental Resources	Division of Environmental Protection, Office of Waste Management		DEP's Office of Legal Services	

Table IV-5: Program Organization

Reg.	State	Agency Name	Program Office	FTE Staff Employed/ Authorized	Legal Support Office	FTE Attorneys
4	AL	Department of Environmental Management	Land Division, Hazardous Waste Branch	26 / 26	ADEM Office of General Counsel	<1
	FL	Department of Environmental Protection	Division of Waste Management, Bureau of Waste Cleanup	71 / 71	DEP Office of General Counsel	2
	GA	Department of Natural Resources	Environmental Protection Division, Hazardous Waste Management Branch, Hazardous Sites Response Program	39 / 42	State Law Department and one staff attorney	1
	KY	Department of Environmental Protection	Division of Waste Management, Superfund Branch	27 / 29	Office of Legal Services	1.5
	MS	Department of Environmental Quality	Office of Pollution Control, Hazardous Waste Division, Superfund Branch	12 / 14	Office of Attorney General; DEQ Legal Staff	<1
	NC	Department of Environment and Natural Resources	Division of Waste Management, Superfund Section	48	Office of the Attorney General	2
	SC	Department of Health and Environmental Control	Bureau of Land and Waste Management, Division of Site Assessment and Remediation	54 / 58	DHEC Office of General Counsel	1.5
	TN	Department of Environment and Conservation	Bureau of Environment, Division of Superfund	56 / 70	Office of the Attorney General; DEC Office of General Counsel	2
5	IL	Environmental Protection Agency	Bureau of Land, Division of Remedial Management	119 / 119	Division of Legal Counsel	7
	IN	Department of Environmental Management	Office of Land Quality, Remediation Services Branch	29 / 31	Office of Legal Counsel	2
	MI	Department of Environmental Quality	Environmental Response Division	236 / 257	Department of the Attorney General, Natural Resources Division	5
	MN	Pollution Control Agency	Remediation Section, Metro District	76 / 80.5	Office of the Attorney General	3
	OH	Environmental Protection Agency	Division of Emergency and Remedial Response	15	Office of the Attorney General; OEPA Legal Office	2.5
	WI	Department of Natural Resources	Bureau for Remediation and Redevelopment	110 / 110	Office of the Attorney General, DNR Bureau of Legal Services	5.5
6	AR	Department of Environmental Quality	Hazardous Waste Division, Inactive Sites Branch	10 / 10	ADEQ Legal Division	0.1
	LA	Department of Environmental Quality	Office of Environmental Assessment, Remediation Services Division	45 / 60	Legal Division	1
	NM	Environment Department	Groundwater Quality Bureau, Water and Waste Management Division, Superfund Oversight Section; Assessment & Abatement Section	11 / 15	Office of General Counsel	0.5
	OK	Department of Environmental Quality	Land Protection Division	34 / 45	DEQ Office of the Executive Director/ Office of General Counsel	4

Table IV-5: Program Organization

Reg.	State	Agency Name	Program Office	FTE Staff Employed/ Authorized	Legal Support Office	FTE Attorneys
6	TX	Natural Resource Conservation Commission	Office of Permitting, Remediation, and Registration, Remediation Division	114/ 114	Office of Legal Services, Environmental Law Division	6
7	IA	Department of Natural Resources	Land Quality and Waste Management Assistance Division, Land Quality Bureau, Contaminated Sites Section	11 / 11	DNR Compliance and Enforcement Bureau	0.25
	KS	Department of Health and Environment	Bureau of Environmental Remediation		Office of Legal Services of the DHE	
	MO	Department of Natural Resources	Division of Environmental Quality, Hazardous Waste Program	31 / 33	Office of the Attorney General	2
	NE	Department of Environmental Quality	Air and Waste Management Division, Remediation Section	13 / 13	DEQ legal staff	0.5
8	CO	Department of Public Health and Environment	Hazardous Materials and Waste Management Division	23 / 29	Colorado Department of Law	11
	MT	Department of Environmental Quality	Hazardous Waste Site Cleanup Bureau, Remediation Division, Site Response Section	22 / 23	DEQ Legal Unit	4
	ND	Department of Health	Division of Waste Management, Environmental Health Section	5	Office of the Attorney General	1
	SD	Department of Environment and Natural Resources	Division of Environmental Regulation, Groundwater Quality Program	2.5 / 3	Attorney General's Office	1
	UT	Department of Environmental Quality	Superfund Branch, Division of Environmental Response and Remediation	35 / 35	Office of the Attorney General; DEQ Staff Attorneys	2
	WY	Department of Environmental Quality	Solid and Hazardous Waste Division	5	Office of the Attorney General	1
9	AZ	Department of Environmental Quality	Waste Programs Division, Superfund Programs Section, and other related units	65 / 69	Office of the Attorney General	7
	CA	Environmental Protection Agency	Department of Toxic Substances Control, Site Mitigation Program	312 / 384	Office of the Attorney General; DTSC Office of Legal Counsel and Criminal Investigation	7.9
	HI	Department of Health	Environmental Management Division, Office of Hazard Evaluation and Emergency Response	29 / 36	Office of the Attorney General	1
	NV	Conservation and Natural Resources	Division of Environmental Protection, Bureau of Corrective Actions	8/8	Office of the Attorney General	1

Table IV-5: Program Organization

Reg.	State	Agency Name	Program Office	FTE Staff Employed/ Authorized	Legal Support Office	FTE Attorneys
10	AK	Department of Environmental Conservation	Spill Prevention and Response Division, Contaminated Sites Remediation Program	39 / 43	Office of the Attorney General	2.5
	ID	Department of Environmental Quality	Waste Management and Remediation Division		Office of the Attorney General	
	OR	Department of Environmental Quality	Environmental Cleanup Program	81 / 81	Department of Justice	1
	WA	Department of Ecology	Toxics Cleanup Program	142 / 145	Office of the Attorney General	3

TABLE IV-6: PROGRAM ADMINISTRATION AND STAFF FUNDING SOURCES

Summary

- Twenty-three (23) states reported using state general funds for program administration and staff; of these states four receive more than 50 percent of their funding for program administration and staff from state general funds.

- Twenty-seven (27) states reported using state cleanup funds for program administration and staff; of these states 15 receive more than 50 percent of their funding for program administration and staff from state cleanup funds.

- Thirty-five (35) states reported using federal funds for program administration and staff; of these states 14 receive 50 percent or more of their funding for program administration and staff from state cleanup funds.

Table IV-6: Administration and Staff Funding Sources
State Cleanup Program

Reg.	State	State General Fund	State Cleanup Fund	Federal Grants	Other Source
1	Connecticut	10%	40%	35%	15%
	Maine		98%	2%	
	Massachusetts	5%	40%	11%	44%
	New Hampshire	6%	44%	50%	
	Rhode Island	90%		10%	
	Vermont	10%		90%	
2	New Jersey		55%	5%	40%
	New York	1%	88%	11%	
	Puerto Rico				
3	Delaware	1%	39%		60%
	District of Columbia				
	Maryland	20%		80%	
	Pennsylvania		100%		
	Virginia			100%	
	West Virginia				
4	Alabama		10%	33%	57%
	Florida		85%	15%	
	Georgia		100%		
	Kentucky	25%	60%	10%	5%
	Mississippi	35%		65%	
	North Carolina	10%		90%	
	South Carolina	8%	17%	43%	32%
	Tennessee	*	*	39%	
5	Illinois	24%	42%	34%	
	Indiana		100%		
	Michigan	59%	29%	12%	
	Minnesota		75%	25%	
	Ohio				
	Wisconsin				
6	Arkansas				
	Louisiana		79%	7%	14%
	New Mexico	70%			30%
	Oklahoma				
	Texas		78%	22%	
7	Iowa	40%		60%	
	Kansas				

* Percentages not available

Table IV-6: Administration and Staff Funding Sources
State Cleanup Program

Reg.	State	State General Fund	State Cleanup Fund	Federal Grants	Other Source
7	Missouri		23%	76%	
	Nebraska	5%		95%	
8	Colorado		15%	80%	5%
	Montana		31%	65%	4%
	North Dakota	25%		75%	
	South Dakota	10%		90%	
	Utah	20%		80%	
	Wyoming				
9	Arizona		100%		
	California	75%		20%	5%
	Hawaii	23%	40%	37%	
	Nevada				
10	Alaska		57%	9%	34%
	Idaho				
	Oregon		81%	15%	4%
	Washington	26%	52%	22%	

TABLE IV-7: PROGRAM ADMINISTRATION AND STAFF FUNDING SOURCES VCP/BROWNFIELDS PROGRAM

Summary

- Fifteen (15) states reported using state general funds for program administration and staff; of these states six receive more than 50 percent of their funding for program administration and staff from state general funds.
- Sixteen (16) states reported using state cleanup funds for program administration and staff; of these states eight receive 50 percent or more of their funding for program administration and staff from state cleanup funds.
- Twenty-eight (28) states reported using federal funds for program administration and staff; of these states 10 receive 50 percent or more of their funding for program administration and staff from federal funds.
- Sixteen (16) states reported using fees for program administration and staff; of these states nine receive more than 50 percent of their funding for program administration and staff from state cleanup funds.

Table IV-7: Administration and Staff Funding Sources VCP/Brownfields Program

Reg.	State	State General Fund	State Cleanup Fund	Federal Grants	Fees
1	Connecticut	10%	40%	35%	15%
	Maine		30%	30%	40%
	Massachusetts				
	New Hampshire	6%	44%	50%	
	Rhode Island	90%		10%	
	Vermont	10%		90%	
2	New Jersey		55%	5%	40%
	New York		81%	19%	
	Puerto Rico				
3	Delaware				100%
	District of Columbia				
	Maryland	100%			
	Pennsylvania		100%		
	Virginia			100%	
	West Virginia				
4	Alabama			95%	
	Florida	100%			
	Georgia				
	Kentucky				
	Mississippi			65%	35%
	North Carolina			100%	
	South Carolina	1%	1%	4%	94%
	Tennessee	*	*	*	
5	Illinois		100%		
	Indiana				100%
	Michigan	59%	29%	12%	
	Minnesota			10%	90%
	Ohio				
	Wisconsin				
6	Arkansas				
	Louisiana		10%	90%	
	New Mexico	10%		90%	
	Oklahoma	20%		20%	60%
	Texas		14%	9%	77%

* Percentages not available.

Table IV-7: Administration and Staff Funding Sources VCP/Brownfields Program

Reg.	State	State General Fund	State Cleanup Fund	Federal Grants	Fees
7	Iowa	10%	90%		
	Kansas				
	Missouri			46%	53%
	Nebraska			10%	90%
8	Colorado			20%	80%
	Montana		10%	90%	
	North Dakota				
	South Dakota	10%		90%	
	Utah	20%		80%	
	Wyoming	75%			25%
9	Arizona		50%	41%	9%
	California	75%		20%	5%
	Hawaii		67%	33%	
	Nevada				
10	Alaska				
	Idaho				
	Oregon		81%	19%	
	Washington				

TABLE IV-8: STATE CLEANUP FUNDS

Summary

- Total Fund balances at the end of FY00 were approximately $1,227,520,652 (42 states reporting).
- Total additions to all funds during FY00 were $414,312,737 (38 states reporting).
- States spent a total of $478,352,498 from their state funds (38 states reporting).
- The average spent by states was $12,588,224, while the median spent by states was $5,417,373(compared to $2,273,718 in 1997).
- Total expenditures are distributed as follows:
    - Seven states spent less than $1M.
    - Twelve states spent at least $1M but less than $5M.
    - Six states spent at least $5M but less than $10M.
    - Twelve states spent at least $10M but less than $50M.
    - One state spent more than $50M.
- States obligated a total of $564,435,675 to be spent in the future (35 states reporting).

Table IV-8: State Cleanup Funds

Reg.	State	Fund Name	Balance	Additions	Expenditures	Obligated or Encumbered
1	CT	State Superfund Bond Fund	$17,460,610			$0
		Urban Sites Remedial Action Fund	$6,710,000	$5,000,000		$4,000,000
	ME	Uncontrolled Sites Bond Account	$4,270,375	$1,000,000	$1,146,420	$384,863
		Uncontrolled Sites Fund	$5,000,000	$550,000	$845,000	$0
	MA	Bonds (General Obligation)	$53,900,000		$17,400,000	
		Brownfields			$3,200,000	
		Oil and Hazardous Material Response Loan			$15,300,000	
	NH	Hazardous Waste Cleanup Fund	$7,800,000	$1,600,000	$2,100,000	$7,800,000
	RI	State General Fund				
	VT	Environmental Contingency Fund	$296,000	$392,000	$442,000	$250,000
		Petroleum Cleanup Fund	$1,400,000	$5,012,000	$6,777,000	$1,800,000
2	NJ	1981 Discharge Bond Fund	$5,658,931		$1,431,207	$29,023,492
		1986 Hazardous Discharge Bond	$8,457,585		$10,891,766	$37,987,867
		1996 Hazardous Discharge Bond	$65,000,000			$5,000,000
		Corporate Business Tax (Publicly Funded)	$37,080,475	$21,310,000	$7,550,143	$34,216,214
		Hazardous Discharge Capital Fund	$58		$94,385	$187,871
		Hazardous Discharge Site Cleanup	$53,464,418	$8,998,716	$2,847,963	$3,105,666
		Spill Fund	$19,432,056	$24,689,400	$2,315,497	$18,177,070
	NY	1986 Environmental Quality Bond Act	$23,100,000	$0	$56,900,000	$40,000,000
		1996 Clean Water/Clean Air Bond Act (brownfields sites)	$182,674,342	$0	$6,419,134	$2,800,000
		Hazardous Waste Remedial Fund	$9,514,695	$53,657,287	$58,744,279	
		State Capital Funds	$1,720,549	$1,000,000	$17,800	$4,304,451
	PR	Environmental Emergencies Fund				
3	DE	Hazardous Substance Cleanup Fund	$13,000,000	$3,500,000	$3,500,000	$0
	DC	Clean Land Fund				
	MD	Brownfields Revitalization Incentive Fund				
		Hazardous Substances Control Fund	$1,816,898	$1,816,898	$7,000	$1,816,898
		Voluntary Cleanup Fund	$0			
	PA	Hazardous Sites Cleanup Fund	$98,000,000	$43,000,000	$39,000,000	$31,000,000
		Industrial Sites Cleanup Fund	$10,000,000			$16,625,269
		Industrial Sites Environmental Assessment Fund	$2,000,000			$3,059,742
	VA	Virginia Environmental Emergency Response Fund		$1,600,000	$1,000,000	
		Voluntary Remediation Registration Fee Account	$0	$29,500	$6,500	$261,955
	WV	Brownfields Revolving Loan Fund				
		Hazardous Waste Emergency Fund				
4	AL	Dry Cleaner Environmental Response Trust Fund		$170,000		
		Hazardous Substance Cleanup Fund	$450,000	$260,600	$332,700	
	FL	Water Quality Assurance Trust Fund	$15,006,808		$4,337,746	$9,517,257

Table IV-8: State Cleanup Funds

Reg.	State	Fund Name	Balance	Additions	Expenditures	Obligated or Encumbered
4	GA	Hazardous Waste Trust Fund	$12,762,010	$12,807,746	$10,484,945	$1,706,298
	KY	Hazardous Waste Management Fund	$1,500,000	$2,100,000	$700,000	$4,600,000
	MS	Brownfields Fund	$10,000	$25,000	$15,000	
		CERCLA CORE	$52,000		$450,000	$459,000
		CERCLA PA/SI	$33,800		$166,200	$202,500
		Corrective Action Trust Fund				
		Pollution Emergency Response Fund			$1,580,183	
		Uncontrolled Sites	$14,000		$324,000	$338,000
		Voluntary Evaluation Fund	$3,000	$149,000	$146,000	
	NC	Cost Share Trust Fund	$6,663,845	$0		$4,675,933
		Inactive Hazardous Sites Cleanup Fund	$3,767,013		$582,972	
	SC	Appropriated Funds	$0	$100,000	$100,000	
		Dry Cleaner Restoration Trust Fund	$3,800,000	$840,000	$300,000	$500,000
		Hazardous Waste Contingency Fund	$1,200,000	$1,600,000	$2,700,000	$21,100,000
	TN	Dry Cleaner Environmental Response Fund	$4,667,593	$1,598,620	$853,601	$301,289
		Hazardous Waste Remedial Action Fund	$7,415,159	$8,852,491	$10,463,039	
5	IL	Environmental Protection Fund	$13,269,600	$4,234,900	$4,479,400	$1,072,700
		Hazardous Waste Fund	$10,764,000	$26,984,400	$12,973,100	$11,921,600
		Drycleaner Environmental Response Trust Fund				
	IN	Environmental Management Special Fund	$21,938,931	$6,803,115	$4,183,621	$16,520,460
		Hazardous Substance Response Trust Fund	$19,411,473	$3,531,286	$8,331,338	$16,179,594
	MI	Clean Michigan Fund	$28,304,000	$0	$3,568,000	$15,873,000
		Cleanup and Redevelopment Fund	$23,312,000	$3,234,000	$3,615,000	$11,816,000
		Environmental Protection Bond	$68,372,000	$0	$28,809,000	$46,590,000
		General Fund	$13,184,000	$12,586,200	$10,338,000	$9,590,000
	MN	Superfund (MERLA)	$12,800,000	$8,811,000	$7,897,000	
	OH	Hazardous Waste Cleanup Fund				
		Hazardous Waste Facility Management Fund				
		Voluntary Action Program Administration Fund				
	WI	Bonding Authority	$21,424,900	$0	$3,964,500	$9,270,400
		Dry Cleaner Fund	$2,180,000	$1,100,000	$520,000	
		Environment Fund	$1,487,300	$3,321,300	$4,592,100	$1,689,300
		Site Assistance Grant	$1,450,000			
6	AR	Emergency Response Trust Fund				
		Remedial Action Trust Fund				
	LA	Hazardous Waste Site Cleanup Fund	$3,851,299	$6,008,304	$6,497,001	$1,659,993
	NM	Assessment and Abatement State General Fund	$23,000	$251,600	$251,436	$141,000
		Hazardous Waste Emergency Fund	$1,600,000	$197,300	$189,400	$69,000

Table IV-8: State Cleanup Funds

Reg.	State	Fund Name	Balance	Additions	Expenditures	Obligated or Encumbered
6	OK	Environmental Trust Fund	$0.53	$0	$0	$0
		Hazardous Waste Fund	$313,450	$1,093,001	$1,339,036	$385,534
	TX	Hazardous and Solid Waste Remediation Fee Account (Fund 550)	$55,605,312	$29,523,119	$23,927,551	$27,190,355
		Spill Response Fund	$116,297	$0	$75,000	$0
7	IA	Hazardous Waste Remedial Fund	$89,484	$417,564	$328,080	$0
	KS	Drycleaning Trust Fund				
		State Environmental Response Fund				
		State Water Plan-Contamination Remediation Account				
	MO	Hazardous Waste Fund (VCP)				
		Hazardous Waste Remedial Fund	$2,900,000	$2,300,000	$3,500,000	$6,500,000
	NE	None				
8	CO	Hazardous Substance Response Fund	$9,055,640	$2,854,735	$2,166,380	$23,757,377
		Natural Resources Damages Fund	$7,063,425	$497,409	$286,000	$925,000
	MT	Direct PRP Fund	$13,763,918	$20,386,034	$6,630,940	$37,040
		Environmental Quality Protection Fund	$742,549	$779,096	$664,721	$5,331
		Hazardous Waste/CERCLA Account			$16, 953	
		Orphan Share Fund				
	ND	Environmental Quality Restoration Fund	$163,000			
	SD	Environmental Livestock Cleanup Fund	$800,355	$22,355	$0	$0
		Regulated Substance Response Fund	$2,035,377	$879,818	$1,183,092	$0
	UT	Environmental Voluntary Cleanup Fund				
		Hazardous Substances Mitigation Fund Balance	$400,000	$0	$0	$19,100,000
	WY	The Trust and Agency Account Fund				
9	AZ	Emergency Response Fund	$13,029	$0	$236,971	
		Voluntary Remediation Fund			$74,732	
		Water Quality Assurance Revolving Fund (4000/4010)	$17,882,400	$3,726,000	$14,964,000	$13,400,600
	CA	Chaptered Bond	$0			
		Hazardous Waste Control Account/Toxic Substances Control Account	$80,661,000			
		Reimbursements	$3,887,000			
	HI	Environmental Response Revolving Fund	$1,981,063	$2,857,000	$875,937	$0
		State General Funds		$314,402	$324,351	$0
	NV	Hazardous Waste Management Fund				

Table IV-8: State Cleanup Funds

Reg.	State	Fund Name	Balance	Additions	Expenditures	Obligated or Encumbered
10	AK	Oil and Hazardous Release Response Fund (Prevention Account)	$14,199,376	$15,339,400	$7,355,218	$7,393,432
		Oil and Hazardous Release Response Fund (Response Account)	$50,756,587	$347,255	$365,195	$111,922
	ID	Governor's Trust Account				
		State Appropriation				
	OR	Dry Cleaner Fund	$1,069,135	$670,722	$857,475	
		Hazardous Substance Remedial Action Fund	$8,057,206	$7,464,131	$6,330,454	
		Industrial Orphan Site Account	$9,880,801	$8,202,426	$5,215,410	
		Solid Waste Orphan Site Account	$3,235,416	$776,091	$1,222,521	
	WA	Local Toxics Control Account	$2,374,009	$15,139,516	$1,731,105	$11,034,402
		State Toxics Control Account	$12,000,000	$22,000,000	$27,000,000	$27,000,000

TABLE IV-9: EXPENDITURES AND OBLIGATIONS FROM STATE CLEANUP FUNDS

Summary

- States spent a total of $505,621393 from their state funds (38 states reporting).
- States spent $37,075,724 on NPL sites. (24 states reporting).
- States spent $208,694,679 on non-NPL sites (25 states reporting).
- The average spent on non-NPL sites was $8,347,787, while the median spent on non-NPL sites was $3,100,000 (compared to $1.411,776 in 1997).
- States obligated a total of $564,435,675 to be spent in the future (35 states reporting).
- States obligated $66,322,453 for NPL (21 states reporting).
- States obligated $229,651,509 for non-NPL (24 states reporting).
- The average obligated for non-NPL sites was $9,568,813, while the median obligated on non-NPL sites was $1,697,799.

Table IV-9: Expenditures and Obligations from State Cleanup Funds

Reg.	State	Fund Name	Expended for NPL	Expended for non-NPL	Total Expended	Obligated for NPL	Obligated for non-NPL	Total Obligated
1	CT	State Superfund Bond Fund				$0	$0	$0
		Urban Sites Remedial Action Fund				$0	$4,000,000	$4,000,000
	ME	Uncontrolled Sites Bond Account	$0	$1,146,420	$1,146,420			$384,863
		Uncontrolled Sites Fund	$0	$845,000	$845,000	$0	$0	$0
	MA	Bonds (General Obligation)	$13,000,000	$4,400,000	$17,400,000			
		Brownfields	$0	$3,200,000	$3,200,000			
		Oil and Hazardous Material Response Loan	$0	$15,300,000	$15,300,000			
	NH	Hazardous Waste Cleanup Fund	$0	$2,100,000	$2,100,000	$5,700,000	$2,100,000	$7,800,000
	RI	State General Fund						
	VT	Environmental Contingency Fund			$442,000		$250,000	$250,000
		Petroleum Cleanup Fund			$6,777,000			$1,800,000
2	NJ	1981 Discharge Bond Fund			$1,431,207			$29,023,492
		1986 Hazardous Discharge Bond			$10,891,766			$37,987,867
		1996 Hazardous Discharge Bond						$5,000,000
		Corporate Business Tax (Publicly Funded)			$7,550,143			$34,216,214
		Hazardous Discharge Capital Fund			$94,385			$187,871
		Hazardous Discharge Site Cleanup			$2,847,963			$3,105,666
		Spill Fund			$2,315,497			$18,177,070
	NY	1986 Environmental Quality Bond Act			$56,900,000			$40,000,000
		1996 Clean Water/Clean Air Bond Act (brownfields sites)			$6,419,134			$2,800,000
		Hazardous Waste Remedial Fund			$58,744,279			
		State Capital Funds			$17,800			$4,304,451
	PR	Environmental Emergencies Fund						
3	DE	Hazardous Substance Cleanup Fund	$0	$3,500,000	$3,500,000	$0	$0	$0
	DC	Clean Land Fund						
	MD	Brownfields Revitalization Incentive Fund						
		Hazardous Substances Control Fund			$7,000			$1,816,898
		Voluntary Cleanup Fund						
	PA	Hazardous Sites Cleanup Fund			$39,000,000			$31,000,000
		Industrial Sites Cleanup Fund						$16,625,269
		Industrial Sites Environmental Assessment Fund						$3,059,742
	VA	Virginia Environmental Emergency Response Fund			$1,000,000			
		Voluntary Remediation Registration Fee Account			$6,500			$261,955
	WV	Brownfields Revolving Loan Fund						
		Hazardous Waste Emergency Fund						

Table IV-9: Expenditures and Obligations from State Cleanup Funds

Reg.	State	Fund Name	Expended for NPL	Expended for non-NPL	Total Expended	Obligated for NPL	Obligated for non-NPL	Total Obligated
4	AL	Dry Cleaner Environmental Response Trust Fund						
		Hazardous Substance Cleanup Fund		$332,700	$332,700			
	FL	Water Quality Assurance Trust Fund			$4,337,746			$9,517,257
	GA	Hazardous Waste Trust Fund	$7,637	$10,477,308	$10,484,945		$1,706,298	$1,706,298
	KY	Hazardous Waste Management Fund		$700,000	$700,000		$4,600,000	$4,600,000
	MS	Brownfields Fund			$15,000			
		CERCLA CORE			$450,000			$459,000
		CERCLA PA/SI			$166,200			$202,500
		Corrective Action Trust Fund						
		Pollution Emergency Response Fund			$1,580,183			
		Uncontrolled Sites			$324,000			$338,000
		Voluntary Evaluation Fund			$146,000			
	NC	Cost Share Trust Fund						$4,675,933
		Inactive Hazardous Sites Cleanup Fund			$582,972			
	SC	Appropriated Funds		$100,000	$100,000			
		Dry Cleaner Restoration Trust Fund		$300,000	$300,000		$500,000	$500,000
		Hazardous Waste Contingency Fund		$2,700,000	$2,700,000	$600,000	$20,500,000	$21,100,000
	TN	Dry Cleaner Environmental Response Fund			$853,601			$301,289
		Hazardous Waste Remedial Action Fund			$10,463,039			
5	IL	Environmental Protection Fund	$1,736,900	$2,742,500	$4,479,400	$1,072,700	$0	$1,072,700
		Hazardous Waste Fund	$724,100	$12,249,000	$12,973,100	$1,337,500	$10,584,100	$11,921,600
		Drycleaner Environmental Response Trust Fund						
	IN	Environmental Management Special Fund	$0	$4,183,621	$4,183,621	$0	$16,520,460	$16,520,460
		Hazardous Substance Response Trust Fund	$703,031	$7,628,357	$8,331,338	$14,399,797	$1,839,797	$16,179,594
	MI	Clean Michigan Fund	$0	$3,568,000	$3,568,000	$0	$15,873,000	$15,873,000
		Cleanup and Redevelopment Fund	$1,515,000	$2,100,000	$3,615,000	$1,000,000	$10,816,000	$11,816,000
		Environmental Protection Bond	$3,390,000	$25,419,000	$28,809,000	$8,556,000	$38,034,000	$46,590,000
		General Fund	$610,000	$9,728,000	$10,338,000	$800,000	$8,790,000	$9,590,000
	MN	Superfund (MERLA)	$0	$7,897,000	$7,897,000			
	OH	Hazardous Waste Cleanup Fund						
		Hazardous Waste Facility Management Fund						
		Voluntary Action Program Administration Fund						

Table IV-9: Expenditures and Obligations from State Cleanup Funds

Reg.	State	Fund Name	Expended for NPL	Expended for non-NPL	Total Expended	Obligated for NPL	Obligated for non-NPL	Total Obligated
5	WI	Bonding Authority	$400,000	$3,960,500	$3,964,500			$9,270,400
		Dry Cleaner Fund			$520,000			
		Environment Fund	$0	$4,592,100	$4,592,100	$0	$1,689,300	$1,689,300
		Site Assistance Grant						
6	AR	Emergency Response Trust Fund						
		Remedial Action Trust Fund						
	LA	Hazardous Waste Site Cleanup Fund	$891,133	$114,941	$6,497,001	$429,067	$1,230,304	$1,659,993
	NM	Assessment and Abatement State General Fund	$0	$251,436	$251,436	$0	$141,000	$141,000
		Hazardous Waste Emergency Fund	$0	$189,400	$189,400	$0	$69,000	$69,000
	OK	Environmental Trust Fund			$0			$0
		Hazardous Waste Fund	$1,323,016	$16,019	$1,339,036	$385,534	$0	$385,534
	TX	Hazardous and Solid Waste Remediation Fee Account (Fund 550)	$3,486,020	$20,441,531	$23,927,551	$2,331,097	$24,859,258	$27,190,355
		Spill Response Fund	$0	$75,000	$75,000	$0	$0	$0
7	IA	Hazardous Waste Remedial Fund	$0	$328,080	$328,080	$0	$0	$0
	KS	Drycleaning Trust Fund						
		State Environmental Response Fund						
		State Water Plan-Contamination Remediation Account						
	MO	Hazardous Waste Fund (VCP)						
		Hazardous Waste Remedial Fund			$3,500,000			$6,500,000
	NE	None						
8	CO	Hazardous Substance Response Fund	$2,128,892	$37,488	$2,166,380	$23,064,596	$692,781	$23,757,377
		Natural Resources Damages Fund	$0	$286,000	$286,000	$925,000	$0	$925,000
	MT	Direct PRP Fund	$6,491,160	$139,780	$6,630,940	$21,162	$15,878	$37,040
		Environmental Quality Protection Fund	$0	$664,721	$664,721	$0	$5,331	$5,331
		Hazardous Waste/CERCLA Account	$16, 953		$16, 953			
		Orphan Share Fund						
	ND	Environmental Quality Restoration Fund						
	SD	Environmental Livestock Cleanup Fund	$0	$0	$0	$0	$0	$0
		Regulated Substance Response Fund			$1,183,092	$0	$0	$0
	UT	Environmental Voluntary Cleanup Fund						
		Hazardous Substances Mitigation Fund Balance	$0	$0	$0	$5,200,000	$13,900,000	$19,100,000
	WY	The Trust and Agency Account Fund						

Table IV-9: Expenditures and Obligations from State Cleanup Funds

Reg.	State	Fund Name	Expended for NPL	Expended for non-NPL	Total Expended	Obligated for NPL	Obligated for non-NPL	Total Obligated
9	AZ	Emergency Response Fund	$0	$236,971	$236,971			
		Voluntary Remediation Fund	$0	$74,723	$74,732	$0	$0	$0
		Water Quality Assurance Revolving Fund (4000/4010)	$108,875	$14,855,125	$14,964,000	$0	$13,400,600	$13,400,600
9	CA	Chaptered Bond						
		Hazardous Waste Control Account/Toxic Substances Control Account Reimbursements						
	HI	Environmental Response Revolving Fund			$875,937	$0	$0	$0
		State General Funds			$324,351	$0	$0	$0
	NV	Hazardous Waste Management Fund						
10	AK	Oil and Hazardous Release Response Fund (Prevention Account)			$7,355,218			$7,393,432
		Oil and Hazardous Release Response Fund (Response Account)			$365,195			$111,922
	ID	Governor's Trust Account						
		State Appropriation						
	OR	Dry Cleaner Fund	$0	$857,475	$857,475			
		Hazardous Substance Remedial Action Fund	$32,385	$6,298,069	$6,330,454			
		Industrial Orphan Site Account	$10,622	$5,204,788	$5,215,410			
		Solid Waste Orphan Site Account		$1,222,521	$1,222,521			
	WA	Local Toxics Control Account		$1,731,105	$1,731,105		$11,034,402	$11,034,402
		State Toxics Control Account	$500,000	$26,500,000	$27,000,000	$500,000	$26,500,000	$27,000,000

TABLE IV-10: SOURCES OF STATE CLEANUP FUNDS

Summary

Significant sources of funds (greater than 20 percent of fund additions) are:

- Appropriations in 20 states (28 funds).
- Penalties and fines in seven states (eight funds).
- Bonds in 10 states (14 funds).
- Cost recoveries in 16 states (19 funds).
- Waste fees in 21 states (24 funds).
- Taxes in 15 states (19 funds).
- Interest in seven states (nine funds).
- Transfers in seven states (nine funds).
- Private funds in one state (two funds).
- User fees in 12 states (13 funds).

Table IV-10: Sources of State Cleanup Funds

Reg.	State	Fund Name	A	PE	B	CR	WF	TX	I	TR	PF	UF	O
1	CT	State Superfund Bond Fund			S								
		Urban Sites Remedial Action Fund											
	ME	Uncontrolled Sites Bond Account			S								
		Uncontrolled Sites Fund				S			m			m	
	MA	Bonds (General Obligation)			S								
		Brownfields	S										
		Oil and Hazardous Material Response Loan	m	m		m	S	m					
	NH	Hazardous Waste Cleanup Fund		m		S	S		m			m	
	RI	State General Fund	S				m					m	
	VT	Environmental Contingency Fund		m		m	S					m	
		Petroleum Cleanup Fund		m		m							S
2	NJ	1981 Discharge Bond Fund			S								
		1986 Hazardous Discharge Bond			S								
		1996 Hazardous Discharge Bond			S								
		Corporate Business Tax (Publicly Funded)						S					
		Hazardous Discharge Capital Fund	S										
		Hazardous Discharge Site Cleanup				S			m			S	
		Spill Fund				m		S	m				
	NY	1986 Environmental Quality Bond Act			S								
		1996 Clean Water/Clean Air Bond Act (brownfields sites)			S								
		Hazardous Waste Remedial Fund	m	m		m	S	S	m	S		m	
		State Capital Funds	S										
	PR	Environmental Emergencies Fund											
3	DE	Hazardous Substance Cleanup Fund	m			m		S	m			m	
	DC	Clean Land Fund	S				S						S
	MD	Brownfields Revitalization Incentive Fund	S										
		Hazardous Substances Control Fund	S	m		m							
		Voluntary Cleanup Fund	S						m			m	
	PA	Hazardous Sites Cleanup Fund				m	m	S	S				
		Industrial Sites Cleanup Fund								S			
		Industrial Sites Environmental Assessment Fund								S			
	VA	Virginia Environmental Emergency Response Fund		S					m				
		Voluntary Remediation Registration Fee Account										S	
	WV	Brownfields Revolving Loan Fund											
		Hazardous Waste Emergency Fund				m	S						

S = Significant funding source (>20%) m = (<20%)
A: Appropriations PE: Penalties B: Bonds CR: Cost Recoveries WF: Waste Fees
TX: Taxes I: Interest TR: Transfers PF: Private Funds UF: User Fees O: Other Source

Table IV-10: Sources of State Cleanup Funds

Reg.	State	Fund Name	A	PE	B	CR	WF	TX	I	TR	PF	UF	O
4	AL	Dry Cleaner Environmental Response Trust Fund										S	
		Hazardous Substance Cleanup Fund	m			S	m						S
	FL	Water Quality Assurance Trust Fund		m				S	m	m			
	GA	Hazardous Waste Trust Fund		S			S		m				
	KY	Hazardous Waste Management Fund	m		m	m	S	m	m	S		S	
	MS	Brownfields Fund										S	
		CERCLA CORE											
		CERCLA PA/SI											
		Corrective Action Trust Fund											
		Pollution Emergency Response Fund	S	S									
		Uncontrolled Sites	S										
		Voluntary Evaluation Fund										S	
	NC	Cost Share Trust Fund	S			m			S				
		Inactive Hazardous Sites Cleanup Fund				m			S				
	SC	Appropriated Funds	S										
		Dry Cleaner Restoration Trust Fund						S				S	
		Hazardous Waste Contingency Fund				m	S					m	
	TN	Dry Cleaner Environmental Response Fund		m					m				S
		Hazardous Waste Remedial Action Fund	m	m		m	S		m	m		m	S
5	IL	Environmental Protection Fund											S
		Hazardous Waste Fund		m	S	S	m			S		m	
		Drycleaner Environmental Response Trust Fund						S	m				S
	IN	Environmental Management Special Fund								S			
		Hazardous Substance Response Trust Fund				m	S		S				
	MI	Clean Michigan Fund			S								
		Cleanup and Redevelopment Fund	S										
		Environmental Protection Bond			S	S							
		General Fund	S										
	MN	Superfund (MERLA)		m		m	S	S	m	S		S	
	OH	Hazardous Waste Cleanup Fund		m		S	S						
		Hazardous Waste Facility Management Fund		m		S	S						m
		Voluntary Action Program Administration Fund				m						S	S

S = Significant funding source (>20%) m = (<20%)
A: Appropriations PE: Penalties B: Bonds CR: Cost Recoveries WF: Waste Fees
TX: Taxes I: Interest TR: Transfers PF: Private Funds UF: User Fees O: Other Source

Table IV-10: Sources of State Cleanup Funds

Reg.	State	Fund Name	A	PE	B	CR	WF	TX	I	TR	PF	UF	O
5	WI	Bonding Authority	S		S								
		Dry Cleaner Fund	S										S
		Environment Fund	S	m		m	S						
		Site Assistance Grant	S				S						
6	AR	Emergency Response Trust Fund		S					m				
		Remedial Action Trust Fund		S		S	S		m				
	LA	Hazardous Waste Site Cleanup Fund		S		m		S	m				
	NM	Assessment and Abatement State General Fund	S										
		Hazardous Waste Emergency Fund		S									
	OK	Environmental Trust Fund								X			
		Hazardous Waste Fund		m			S						
	TX	Hazardous and Solid Waste Remediation Fee Account (Fund 550)				m	S		m				S
		Spill Response Fund	S										
7	IA	Hazardous Waste Remedial Fund				m	S				m		
	KS	Drycleaning Trust Fund						S					
		State Environmental Response Fund		m		S				m			
		State Water Plan-Contamination Remediation Account						S					
	MO	Hazardous Waste Fund (VCP)										S	
		Hazardous Waste Remedial Fund		m		S		S	m				
	NE	None											
8	CO	Hazardous Substance Response Fund				S	S	m					
		Natural Resources Damages Fund				S			m				
	MT	Direct PRP Fund									S		
		Environmental Quality Protection Fund				S			S				
		Hazardous Waste/CERCLA Account							S				
		Orphan Share Fund						S			S		
	ND	Environmental Quality Restoration Fund		m		S			S				
	SD	Environmental Livestock Cleanup Fund	S	m		m			m				
		Regulated Substance Response Fund		S		m			m				
	UT	Environmental Voluntary Cleanup Fund										S	
		Hazardous Substances Mitigation Fund	S						m		m		S
	WY	The Trust and Agency Account Fund											
9	AZ	Emergency Response Fund		m						S			
		Voluntary Remediation Fund								S		S	m
		Water Quality Assurance Revolving Fund (4000/4010)	S	m	m	S	m	m	m	m	m		

S = Significant funding source (>20%) m = (<20%)
A: Appropriations PE: Penalties B: Bonds CR: Cost Recoveries WF: Waste Fees
TX: Taxes I: Interest TR: Transfers PF: Private Funds UF: User Fees O: Other Source

Table IV-10: Sources of State Cleanup Funds

Reg.	State	Fund Name	A	PE	B	CR	WF	TX	I	TR	PF	UF	O
9	CA	Chaptered Bond			S								
		Hazardous Waste Control Account/Toxic Substances Control Account	S									m	
		Reimbursements	m									m	
	HI	Environmental Response Revolving Fund		m		m		S	m				
		State General Funds	S										
	NV	Hazardous Waste Management Fund		m		m	S		m				
10	AK	Oil and Hazardous Release Response Fund (Prevention Account)				S		S					
		Oil and Hazardous Release Response Fund (Response Account)				S		S	S				
	ID	Governor's Trust Account											S
		State Appropriation	S										
	OR	Dry Cleaner Fund											S
		Hazardous Substance Remedial Action Fund				S	S		m			S	m
		Industrial Orphan Site Account			S	m			m				
		Solid Waste Orphan Site Account					S		S				
	WA	Local Toxics Control Account	S					S					
		State Toxics Control Account	S	m		m		S	m	m		m	

S = Significant funding source (>20%) m = (<20%)
A: Appropriations PE: Penalties B: Bonds CR: Cost Recoveries WF: Waste Fees
TX: Taxes I: Interest TR: Transfers PF: Private Funds UF: User Fees O: Other Source

TABLE IV-11: USES OF STATE CLEANUP FUNDS

Summary

Authorized uses for funds are:

- Site Investigation in 47 states (89 funds).
- CERCLA Match in 45 states (64 funds).
- Studies and Design in 45 states (83 funds).
- Operations and Maintenance in 44 states (75 funds).
- Removals in 45 states (83 funds).
- Victim Compensation in eight states (eight funds).
- Emergency Response in 48 states (63 funds).
- Grants to Local Governments in 21 states (26 funds).
- Remedial Actions in 44 states (82 funds).
- Program Administration in 43 states (75 funds).
- Natural Resource Restoration in 21 states (34 funds).
- Long-term Stewardship in 20 states (32 funds).

Table IV-11: Uses of State Cleanup Funds

Reg.	State	Fund Name	SI	CM	SD	OM	RM	VC	ER	GLG	RA	PA	NRR	LTS	O
1	CT	State Superfund Bond Fund	X	X	X	X	X	X	X	X	X	X	X		
		Urban Sites Remedial Action Fund													
	ME	Uncontrolled Sites Bond Account	X	X	X	X	X		X	X	X		X	X	
		Uncontrolled Sites Fund	X	X	X	X	X		X	X	X	X	X	X	
	MA	Bonds (General Obligation)	X	X	X	X	X		X	X	X				
		Brownfields										X			X
		Oil and Hazardous Material Response Loan										X			
	NH	Hazardous Waste Cleanup Fund	X	X	X	X	X	X	X	X	X	X		X	
	RI	State General Fund	X	X	X	X	X	X	X		X	X	X		X
	VT	Environmental Contingency Fund	X		X	X	X		X	X	X	X			
		Petroleum Cleanup Fund	X		X	X		X			X	X			
2	NJ	1981 Discharge Bond Fund	X	X	X	X	X				X		X	X	
		1986 Hazardous Discharge Bond	X	X	X	X	X			X	X		X	X	
		1996 Hazardous Discharge Bond	X	X	X	X	X				X		X	X	
		Corporate Business Tax (Publicly Funded)	X	X	X	X	X				X	X	X	X	
		Hazardous Discharge Capital Fund	X	X	X	X	X				X		X	X	
		Hazardous Discharge Site Cleanup	X	X	X	X	X				X	X	X	X	
		Spill Fund	X	X	X	X	X	X	X		X	X	X	X	
	NY	1986 Environmental Quality Bond Act	X	X	X	X	X		X	X	X	X			
		1996 Clean Water/Clean Air Bond Act (brownfields sites)	X		X		X			X	X	X			X
		Hazardous Waste Remedial Fund				X						X			X
		State Capital Funds			X		X				X				
	PR	Environmental Emergencies Fund		X					X			X			
3	DE	Hazardous Substance Cleanup Fund	X	X	X	X	X		X		X	X	X	X	X
	DC	Clean Land Fund	X			X						X			
	MD	Brownfields Revitalization Incentive Fund	X		X	X	X				X				
		Hazardous Substances Control Fund	X	X	X	X	X		X		X	X	X	X	
		Voluntary Cleanup Fund										X			
	PA	Hazardous Sites Cleanup Fund	X	X	X	X	X		X	X	X	X		X	
		Industrial Sites Cleanup Fund	X				X			X	X	X			
		Industrial Sites Environmental Assessment Fund	X								X				
	VA	Virginia Environmental Emergency Response Fund	X	X	X		X		X	X	X				
		Voluntary Remediation Registration Fee Account										X			
	WV	Brownfields Revolving Loan Fund													
		Hazardous Waste Emergency Fund		X		X	X		X			X			

SI: Site Investigation CM: CERCLA Match SD: Studies and Design O&M: Operations and Maintenance RM: Removals
VC: Victim Compensation ER: Emergency Response GLG: Grants to Local Governments RA: Remedial Actions
PA: Program Administration NRR: Natural Resource Restorations LTS: Long-term Stewardship O: Other

Table IV-11: Uses of State Cleanup Funds

Reg.	State	Fund Name	SI	CM	SD	OM	RM	VC	ER	GLG	RA	PA	NRR	LTS	O
4	AL	Dry Cleaner Environmental Response Trust Fund	X	X	X	X	X				X	X			
		Hazardous Substance Cleanup Fund	X	X	X	X	X		X		X	X		X	
	FL	Water Quality Assurance Trust Fund	X	X	X	X	X		X	X	X	X	X	X	X
	GA	Hazardous Waste Trust Fund	X	X	X	X	X		X	X	X	X			
	KY	Hazardous Waste Management Fund	X	X	X	X	X		X		X	X		X	X
	MS	Brownfields Fund	X		X							X		X	X
		CERCLA CORE													
		CERCLA PA/SI													
		Corrective Action Trust Fund													
		Pollution Emergency Response Fund					X		X		X				
		Uncontrolled Sites	X		X							X		X	X
		Voluntary Evaluation Fund	X		X							X		X	X
	NC	Cost Share Trust Fund		X	X	X	X		X		X			X	
		Inactive Hazardous Sites Cleanup Fund	X		X		X		X		X			X	
	SC	Appropriated Funds	X	X	X	X	X		X		X	X	X		
		Dry Cleaner Restoration Trust Fund	X		X	X	X		X		X	X	X		
		Hazardous Waste Contingency Fund	X	X	X	X	X		X		X	X	X		
	TN	Dry Cleaner Environmental Response Fund	X		X	X	X				X	X		X	
		Hazardous Waste Remedial Action Fund	X	X	X	X	X		X		X	X		X	X
5	IL	Environmental Protection Fund	X		X	X	X				X	X			
		Hazardous Waste Fund	X	X	X	X	X		X		X	X	X		
		Drycleaner Environmental Response Trust Fund	X				X								
	IN	Environmental Management Special Fund	X	X	X	X	X		X		X	X			
		Hazardous Substance Response Trust Fund	X	X	X	X	X		X		X	X	X		
	MI	Clean Michigan Initiative Bond	X		X	X	X			X	X	X			X
		Cleanup and Redevelopment Fund	X	X	X	X	X		X		X	X			
		Environmental Protection Bond	X	X	X	X	X			X	X	X			X
		General Fund	X	X	X	X	X		X		X	X			
	MN	Superfund (MERLA)	X	X	X	X	X	X	X	X	X	X	X	X	
	OH	Hazardous Waste Cleanup Fund	X		X	X	X			X	X	X			
		Hazardous Waste Facility Management Fund		X					X						
		Voluntary Action Program Administration Fund		X					X			X			

SI: Site Investigation CM: CERCLA Match SD: Studies and Design O&M: Operations and Maintenance RM: Removals
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PA: Program Administration NRR: Natural Resource Restorations LTS: Long-term Stewardship O: Other

Table IV-11: Uses of State Cleanup Funds

Reg.	State	Fund Name	SI	CM	SD	OM	RM	VC	ER	GLG	RA	PA	NRR	LTS	O
5	WI	Bonding Authority	X	X	X		X				X				
		Dry Cleaner Fund	X		X	X	X				X				
		Environment Fund	X	X	X	X	X	X	X		X		X	X	
		Site Assistance Grant	X				X			X					
6	AR	Emergency Response Trust Fund	X				X		X						
		Remedial Action Trust Fund	X	X	X	X					X	X			
	LA	Hazardous Waste Site Cleanup Fund	X	X	X	X	X	X	X		X	X			
	NM	Assessment and Abatement State General Fund	X	X	X							X			
		Hazardous Waste Emergency Fund	X	X	X		X		X						
	OK	Environmental Trust Fund		X		X									
		Hazardous Waste Fund		X		X			X						
	TX	Hazardous and Solid Waste Remediation Fee Account (Fund 550)	X	X	X	X	X		X		X	X		X	X
		Spill Response Fund					X		X						
7	IA	Hazardous Waste Remedial Fund	X	X	X	X	X		X	X	X	X	X	X	
	KS	Drycleaning Trust Fund	X		X		X		X		X	X			
		State Environmental Response Fund				X						X			
		State Water Plan-Contamination Remediation Account	X	X	X	X	X		X		X	X			
	MO	Hazardous Waste Fund (VCP)										X			
		Hazardous Waste Remedial Fund	X	X	X	X	X		X		X	X			X
	NE	None													
8	CO	Hazardous Substance Response Fund	X	X	X	X					X	X			
		Natural Resources Damages Fund											X		
	MT	Direct PRP Fund	X		X	X	X				X	X	X		
		Environmental Quality Protection Fund	X	X	X	X	X		X		X	X	X		
		Hazardous Waste/CERCLA Account	X	X	X	X	X		X	X	X	X			
		Orphan Share Fund	X		X		X		X		X				X
	ND	Environmental Quality Restoration Fund	X		X		X		X		X				
	SD	Environmental Livestock Cleanup Fund	X		X	X	X		X		X		X		
		Regulated Substance Response Fund	X	X	X	X	X		X		X		X		
	UT	Environmental Voluntary Cleanup Fund													X
		Hazardous Substances Mitigation Fund Balance	X	X	X	X	X		X				X		
	WY	The Trust and Agency Account Fund							X						
9	AZ	Emergency Response Fund							X			X			
		Voluntary Remediation Fund										X			X
		Water Quality Assurance Revolving Fund (4000/4010)	X	X	X	X	X		X		X	X			X

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Table IV-11: Uses of State Cleanup Funds

Reg.	State	Fund Name	SI	CM	SD	OM	RM	VC	ER	GLG	RA	PA	NRR	LTS	O
9	CA	Chaptered Bond													
		Hazardous Waste Control Account/Toxic Substances Control Account	X	X	X	X	X		X		X	X			
		Reimbursements	X		X	X	X				X			X	
	HI	Environmental Response Revolving Fund	X	X	X	X	X		X		X	X	X		
		State General Funds	X	X	X	X	X		X		X	X	X		
	NV	Hazardous Waste Management Fund	X	X	X	X	X		X	X	X	X	X		
10	AK	Oil and Hazardous Release Response Fund (Prevention Account)	X	X	X		X		X	X	X	X		X	
		Oil and Hazardous Release Response Fund (Response Account)	X		X	**X**	X		X		X				
	ID	Governor's Trust Account	X								X				
		State Appropriation	X								X				
	OR	Dry Cleaner Fund	X		X	X	X				X	X			
		Hazardous Substance Remedial Action Fund	X	X	X	X	X		X		X	X	X	X	
		Industrial Orphan Site Account	X	X	X	X	X			X	X	X			
		Solid Waste Orphan Site Account	X		X	X	X			X	X	X			
	WA	Local Toxics Control Account	X		X	X	X			X	X	X	X	X	
		State Toxics Control Account	X	X	X	X	X		X		X	X	X	X	

SI: Site Investigation CM: CERCLA Match SD: Studies and Design O&M: Operations and Maintenance
RM: Removals VC: Victim Compensation ER: Emergency Response GLG: Grants to Local Governments
RA: Remedial Actions PA: Program Administration NRR: Natural Resource Restorations
LTS: Long-term Stewardship O: Other

TABLE IV-12: STATE CLEANUP POLICIES AND CRITERIA

Summary

This table provides the categories of information used by states in setting cleanup standards for their state superfund program. Other programs covered by the same criteria are listed in the column entitled Standards Cover.

- Seven (7) states use different policies and criteria for their voluntary cleanup program.
- Forty-nine (49) states employ risk assessment for carcinogens at specific sites.
- Forty-nine (49) states employ risk assessment for noncarcinogens at specific sites.
- Forty-five (45) states reference background levels.
- Forty-six (46) states apply surface water quality criteria in determining cleanup levels.
- Forty-seven (47) states apply MCLs and/or MCLGs.
- Forty-four (44) states apply groundwater standards.
- Forty (40) states apply soil standards to determine cleanup levels.
- Thirty-five (35) states employ chemical-specific health-based standards.
- Forty-six (46) states employ land-use based cleanup levels at specific sites.

Table IV-12: State Cleanup Policies and Criteria

Reg.	State	Standards Also Cover	Risk Assess. Carc.	Risk Assess. non-Carc.	BL	WQC	MCL/ MCLG	GW	S	CSHB	LU	O
1	CT	VCP RCRA, LUST	10^{-6}	HI=1	X	X		X	X	X	X	X
	ME	VCP	10^{-5}	HI=1	X	X	X	X	X		X	
	MA	VCP RCRA, LUST	10^{-5}	HI=1	X	X	X	X	X	X	X	
	NH	VCP RCRA, LUST	10^{-5} to 10^{-6}	HI=1	X	X	X	X	X	X	X	
	RI	VCP LUST	10^{-6}	HI=1	X	X	X	X	X	X	X	
	VT	VCP RCRA, LUST	10^{-6}	HI=1		X	X	X	X		X	
2	NJ	VCP RCRA, LUST	10^{-6}	HI=1	X	X	X	X	X	X	X	
	NY	VCP RCRA, LUST	10^{-6}	HI=1	X	X	X	X	X		X	
	PR	Not available										
3	DE	VCP	10^{-5} to 10^{-6}	HI=1 for Cleanup, HI=0.1 for screening	X	X	X	X	X	X	X	
	DC	Not available										
	MD	VCP	10^{-5}	HI=1	X	X	X	X	X		X	
	PA	VCP RCRA, LUST	10^{-4}	HI#1	X	X	X	X	X	X	X	
	VA	RCRA	10^{-6}	HI=1	X	X	X	X	X			
	WV	Not available	10^{-4} to 10^{-6}	HI=1	X	X	X		X		X	
4	AL	VCP RCRA	10^{-6}	HI=1	X	X	X	X	X	X	X	
	FL	VCP RCRA, LUST	10^{-6}	HI=1	X	X	X	X		X	X	X
	GA	VCP	10^{-5}	HI=1	X	X	X	X	X	X	X	
	KY	VCP RCRA	10^{-6}	HI=1	X	X	X		X	X	X	
	MS	VCP	10^{-6}	HI=1	X	X	X	X	X	X	X	X
	NC	VCP	10^{-6}	HI=1	X	X	X	X		X	X	
	SC	VCP RCRA	10^{-6}	HI=1	X	X	X	X	X		X	
	TN	VCP LUST	10^{-5}	HI=1	X	X	X			X	X	
5	IL	VCP RCRA, LUST	10^{-4} to 10^{-6}	HI=1	X	X	X	X	X	X	X	
	IN	VCP	10^{-5}	HI=1	X	X	X	X	X	X	X	
	MI	VCP RCRA, LUST	10^{-5}	X	X	X	X	X	X	X	X	
	MN	VCP RCRA, LUST	X	X	X	X	X	X	X	X	X	X
	OH		10^{-4} to 10^{-6}	HI=1	X	X	X	X	X	X	X	
	WI	VCP RCRA	10^{-6}	HI#1	X	X	X	X	X	X	X	X

BL: Background Levels WQC: Water Quality Criteria GW: Ground Water Standards S: Soil Standards
CSHB: Chemical-Specific Health Based Standards LU: Land-use Based O: Other

Table IV-12: State Cleanup Policies and Criteria

Reg.	State	Standards Also Cover	Risk Assess. Carc.	Risk Assess. non-Carc.	BL	WQC	MCL/ MCLG	GW	S	CSHB	LU	O
6	AR	VCP RCRA	10^{-4} to 10^{-6}	HI=1	X	X	X			X	X	
	LA	VCP RCRA, LUST	10^{-4} to 10^{-6}	HI=1				X	X		X	
	NM	Not available	10^{-5}	X	X			X		X	X	
	OK	VCP RCRA	10^{-6}	HI=1	X	X	X	X	X	X	X	
	TX	VCP RCRA	10^{-4} to 10^{-5}	HI=1, 1/10 Cum	X	X	X	X	X	X	X	
7	IA		10^{-4} to 10^{-6}	HI<1	X		X	X	X			
	KS		10^{-4} to 10^{-6}	HI<1	X	X	X			X	X	
	MO	VCP	10^{-5}	10^{-5}	X	X	X	X	X	X	X	
	NE	VCP	10^{-6}	HI=1	X		X	X		X	X	
8	CO*		10^{-6}	HI=1	X	X	X	X	X	X	X	X
	MT	VCP LUST	10^{-5}	HI=1	X	X	X	X	X		X	X
	ND	Not available			X	X	X	X	X		X	X
	SD	VCP RCRA, LUST	10^{-6}	10^{-6}	X	X	X	X	X		X	
	UT	RCRA, LUST	10^{-4} to 10^{-6}	X		X	X	X			X	
	WY	VCP RCRA, LUST	10^{-6}	HI=1	X	X	X	X	X	X		
9	AZ	RCRA, LUST	10^{-4} to 10^{-6}	X	X	X	X	X	X	X	X	
	CA	VCP	10^{-6}	HI=1	X	X	X	X		X		
	HI	RCRA, LUST	10^{-4} to 10^{-6}	HI<1	X	X	X	X	X	X	X	
	NV	VCP RCRA, LUST	10^{-4} to 10^{-6}	X	X	X	X	X	X		X	
10	AK	VCP LUST	10^{-5}	HI=1		X	X	X	X	X	X	
	ID	Not available	X	X		X	X	X			X	
	OR	VCP	10^{-6}	H#1	X	X	X		X	X	X	
	WA	VCP RCRA, LUST	10^{-5} to 10^{-6}	HI=1	X	X	X	X	X	X	X	X

BL: Background Levels WQC: Water Quality Criteria GW: Ground Water Standards S: Soil Standards
CSHB: Chemical-Specific Health Based Standards LU: Land-use Based O: Other
*The cleanup standards listed for CO are for its VCP program, the State program does not have formal cleanup standards

TABLE IV-13: PUBLIC PARTICIPATION

Summary

- Forty-six (46) states provide public notice at state cleanup sites—29 based on statute or regulation, and 17 by policy or on an ad hoc basis.
- Forty-six (46) states provide public notice at VCP sites—37 by statute or regulation, and nine by policy or on an ad hoc basis.
- Forty-five (45) states receive public comment at state cleanup sites—31 based on statute or regulation, and 14 by policy or on an ad hoc basis.
- Forty-five (45) states receive public comment at VCP sites—35 based on statute or regulation, and 10 by policy or on an ad hoc basis.
- Forty-three (43) states hold hearings or meetings at state cleanup sites—26 based on statute or regulation, and 17 by policy or on an ad hoc basis.
- Thirty-seven (37) states hold hearings or meetings at VCP sites—26 based on statute or regulation, and 11 by policy or on an ad hoc basis.
- Nine (9) states provide grants to citizen groups at state cleanup sites—five based on statute or regulation, and four by policy or on an ad hoc basis.
- Three (3) states provide grants to citizen groups at VCP sites—two based on statute or regulation, and one by policy or on an ad hoc basis.

Table IV-13: Public Participation

		State Cleanup Program				Voluntary Cleanup Program			
Reg.	State	Public Notice	Public Comment	Hearings/ Meetings	Citizen Groups Grants	Public Notice	Public Comment	Hearings Meetings	Citizen Groups Grants
1	CT	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	ME	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Policy/ad hoc	Policy/ad hoc	Policy/ad hoc	
	MA	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.
	NH	Policy/ad hoc	Policy/ad hoc			Policy/ad hoc	Policy/ad hoc		
	RI	Stat./reg.	Stat./reg.	Policy/ad hoc		Stat./reg.	Stat./reg.	Policy/ad hoc	
	VT	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Stat./reg.	Stat./reg.		
2	NJ	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Policy/ad hoc	Policy/ad hoc	
	NY	Stat./reg.	Stat./reg.	Stat./reg.		Policy/ad hoc	Policy/ad hoc		
	PR								
3	DE	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	DC					Stat./reg.	Stat./reg.		
	MD	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	PA	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.		
	VA	Stat./reg.	Stat./reg.			Stat./reg.	Stat./reg.		
	WV					Stat./reg.	Stat./reg.	Stat./reg.	
4	AL	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.		
	FL	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Stat./reg.	Stat./reg.	Stat./reg.	
	GA	Stat./reg.	Stat./reg.	Policy/ad hoc		Stat./reg.	Stat./reg.		
	KY	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc	Stat./reg.	Stat./reg.	Stat./reg.	
	MS	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Stat./reg.	Stat./reg.	Stat./reg.	
	NC	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	SC	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Stat./reg.	Stat./reg.	Stat./reg.	
	TN	Stat./reg.	Stat./reg.	Stat./reg.		Policy/ad hoc	Policy/ad hoc	Policy/ad hoc	
5	IL		Policy/ad hoc	Policy/ad hoc			Policy/ad hoc	Policy/ad hoc	
	IN	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	MI	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.
	MN	Policy/ad hoc	Stat./reg.	Policy/ad hoc		Policy/ad hoc	Policy/ad hoc	Policy/ad hoc	
	OH	Stat./reg.	Stat./reg.	Stat./reg.	Policy/ad hoc	Stat./reg.	Policy/ad hoc	Policy/ad hoc	
	WI	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
6	AR	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	LA	Stat./reg.	Stat./reg.	Stat./reg.				Stat./reg.	
	NM	Stat./reg.	Stat./reg.	Stat./reg.	Policy/ad hoc	Stat./reg.	Stat./reg.	Stat./reg.	
	OK					Stat./reg.	Stat./reg.	Stat./reg.	
	TX	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Policy/ad hoc	Policy/ad hoc	
7	IA	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Stat./reg.	Stat./reg.	Stat./reg.	
	KS	Policy/ad hoc		Policy/ad hoc		Stat./reg.	Stat./reg.	Stat./reg.	
	MO	Stat./reg.	Stat./reg.	Stat./reg.		Policy/ad hoc	Policy/ad hoc	Policy/ad hoc	

Table IV-13: Public Participation

		State Cleanup Program				Voluntary Cleanup Program			
Reg.	State	Public Notice	Public Comment	Hearings/ Meetings	Citizen Groups Grants	Public Notice	Public Comment	Hearings/ Meetings	Citizen Groups Grants
7	NE	Stat./reg.	Stat./reg.	Stat./reg.					
8	CO	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Policy/ad hoc			
	MT	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	
	ND	Policy/ad hoc							
	SD	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc					
	UT	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Policy/ad hoc	Stat./reg.	Policy/ad hoc	
	WY	Policy/ad hoc	Policy/ad hoc			Stat./reg.	Stat./reg.	Stat./reg.	
9	AZ	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	CA	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	HI	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	NV					Stat/reg.	Stat/reg.		
10	AK	Policy/ad hoc	Stat./reg.	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc	Stat./reg.	Policy/ad hoc	Policy/ad hoc
	ID	Policy/ad hoc	Policy/ad hoc	Policy/ad hoc		Stat./reg.	Stat./reg.	Stat./reg.	
	OR	Stat./reg.	Stat./reg.	Stat./reg.		Stat./reg.	Stat./reg.	Stat./reg.	
	WA	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.	Stat./reg.			

TABLE IV-14: LIABILITY STANDARDS

Summary

General

- Forty-three (43) states have retroactive liability.
- Thirty-three (33) states have strict, joint and several liability.

Culpability Standards

- Forty-one (41) states have strict liability.
- Six (6) states have a liability standard other than strict or do not specify standards.

Allocation Standards

- Thirty-six (36) states have joint and several liability 11 of these also allow responsible parties to seek apportionment.
- Sixteen (16) states have proportional liability.
- Ten (10) states do not specify standards for allocating liability.

Table IV-14: Liability Standards

Reg.	State	Retroactive	Strict	Joint and Several	Proportional	Other	Not Specified
1	Connecticut	X	X	X			
	Maine	X	X	X			
	Massachusetts	X	X	X			
	New Hampshire	X	X	X			
	Rhode Island	X	X	X			
	Vermont	X	X	X	X		
2	New Jersey	X	X	X			
	New York	X	X	X			
	Puerto Rico	X	X				
3	Delaware	X	X	X			
	District of Columbia		X	X			
	Maryland	X	X				
	Pennsylvania	X	X	X	X		
	Virginia		X				
	West Virginia						X
4	Alabama	X			X		
	Florida	X	X	X			
	Georgia	X	X	X			
	Kentucky	X	X	X			
	Mississippi	X	X	X	X		
	North Carolina	X	X	X			
	South Carolina	X	X	X			
	Tennessee	X			X		
5	Illinois	X	X	X	X		
	Indiana	X	X	X	X		
	Michigan	X		X	X	X	
	Minnesota	X	X	X			
	Ohio	X	X	X			
	Wisconsin	X		X			
6	Arkansas	X	X	X	X		
	Louisiana	X	X	X	X		
	New Mexico	X	X	X			
	Oklahoma	X	X	X			
	Texas	X	X	X	X		
7	Iowa	X	X	X			
	Kansas	X	X				
	Missouri	X	X				
	Nebraska						X

Table IV-14: Liability Standards

Reg.	State	Retroactive	Strict	Joint and Several	Proportional	Other	Not Specified
8	Colorado						X
	Montana	X	X	X	X		
	North Dakota	X		X	X		
	South Dakota	X	X	X			
	Utah		X		X		
	Wyoming						X
9	Arizona	X			X		
	California		X		X		
	Hawaii	X	X	X			
	Nevada	X	X				
10	Alaska	X	X	X			
	Idaho						X
	Oregon	X	X	X			
	Washington	X	X	X			

TABLE IV-15: PENALTIES AND DAMAGES AVAILABLE UNDER STATE SUPERFUND STATUTES

Summary

- Twenty-six (26) states provide for punitive damages.
- Twenty-three (23) states provide for treble damages.
- Two (2) states provides for double damages.
- Two (2) states provide for one and one-half times damages.
- Forty-nine (49) states provide for some type of civil penalty that relates to cleanup programs, although a number of these are more directly related to hazardous waste or water quality regulatory programs.

Table IV-15: Penalties and Damages Available Under State Superfund Statutes

Reg.	State	Punitive Damages	Civil Penalties
1	Connecticut	One and a half	$25,000 per day
	Maine	Treble	None
	Massachusetts	Treble	$25,000 per day
	New Hampshire	None	None
	Rhode Island	Treble	$10,000 per day
	Vermont	Treble	$50,000; $25,000 per day for continuing violations
2	New Jersey	Treble	$50,000
	New York	None	$25,000 per day
	Puerto Rico	None	$25,000 per day per violation
3	Delaware	Treble	$10,000 per day
	District of Columbia	None	$25,000 per day per violation; $50,000 per day per Brownfields violation
	Maryland	Treble	$25,000 per day per violation
	Pennsylvania	Treble	$25,000 per day maximum; $5,000 per day minimum
	Virginia	None	$25,000 per day per violation
	West Virginia	None	Civil penalties are authorized for violations of orders
4	Alabama	None	$25,000 per day
	Florida	None	$50,000 per day for continued violations
	Georgia	Treble	$25,000 per day
	Kentucky	None	$25,000 per day
	Mississippi	None	$25,000 per day per violation
	North Carolina	None	$25,000 per day for hazardous waste violations
	South Carolina	Treble	$25,000 per day
	Tennessee	One and a half	$10,000 per day
5	Illinois	Treble	$50,000 for first violation; $10,000 per day for each day of continuing violations
	Indiana	Treble	$25,000 per day
	Michigan	Treble	Up to $25,000 per day
	Minnesota	None	$20,000 per day
	Ohio	None	$25,000 per day
	Wisconsin	None	Up to $5,000 per day
6	Arkansas	Treble	$25,000 per day
	Louisiana	Double to PRPs, Treble to State	$25,000 per day for PRP failure to provide requisition information
	New Mexico	None	$10,000 per day for water quality violations; $15,000 per day for discharge permit violations; $25,000 per day for compliance order violations
	Oklahoma	None	$25,000 per day per hazardous waste violation; $10,000 per violation for any other violation.
	Texas	Treble	$25,000 per day

Table IV-15: Penalties and Damages Available Under State Superfund Statutes

Reg.	State	Punitive Damages	Civil Penalties
7	Iowa	Treble	$1,000 for failure to notify; $10,000 for air and water violations
	Kansas	None	$10,000 to $25,000 for hazardous waste, $10,000 for water pollution, and $5,000 for solid waste violations
	Missouri	Treble	$1,000 per day
	Nebraska	None	Unspecified judicial civil penalties
8	Colorado	None	None
	Montana	Double	$10,000 per day judicial penalties; $1,000 per day administrative penalties
	North Dakota	None	$25,000 per day per violation (HWMA); $10,000 per day per violation (WPCL)
	South Dakota	None	$10,000 per day per violation
	Utah	None	$10,000 per day
	Wyoming	None	$10,000 a day
9	Arizona	Treble	$5,000 per day
	California	Treble	$25,000 per day per violation
	Hawaii	Treble	$50,000 to $100,000 per day for each violation.
	Nevada	None	$25,000 per day
10	Alaska	None	$500 to $100,000 for first violation. No more than $10,000 per day for continued violations
	Idaho	None	$10,000 per day per violation
	Oregon	Treble	$10,000 per day
	Washington	Treble	$25,000 per day

TABLE IV-16:VOLUNTARY CLEANUP PROGRAMS

Summary

- Forty-nine (49) states (including the District of Columbia and Puerto Rico) have Voluntary Cleanup Programs.
- Forty-four (44) states collect fees or seek reimbursement from voluntary program participants.
- Three (3) states (Florida, Georgia, and New Hampshire) do not collect fees or seek reimbursement but instead fund their programs through other sources, including their state general funds.
- Approximately 37 states define eligibility for their voluntary programs by types of volunteers and/or type of sites. Approximately 28 states exclude sites that are on the National Priorities List.
- Only seven states (Minnesota, Nebraska, New Hampshire, North Carolina, Oklahoma, Tennessee, and Wisconsin) do not categorically exclude certain types of sites or volunteers.
- Virtually all states provide incentives for participating in their voluntary programs. For example, at least 37 states provide some form of liability relief.

Table IV-16: Voluntary Cleanup Programs

Reg.	State	Start Year	State Funded by	Fee	Eligibility	Incentives
1	CT	1995	Fees	$2,000 for 133x, no fee for 133y	Sites that are: owned by a municipality; defined as establishments; contained on the inventory of hazardous waste disposal sites; located in a GA or GAA groundwater area. The other State program may be utilized by owners of sites where there have been spills and the property is located in an area with a GB or GC groundwater classification and the property is not subject to any other order.	133x program: ECAF fee can be applied toward the fee required by the property transfer program, for the transfer of any parcel for which an ECAG has been submitted within three years of the transfer; 133y program: approval of a final remedial action report allows participant to file a Property Transfer Program Form II.
	ME	1993	Fees	$500 initially; bill for additional costs	Purchasers, lenders, sellers, and PRPs for hazardous substance or petroleum sites. Some RCRA regulated owners/operators are not eligible.	Protections from state enforcement actions for those who remediate "discovered" contamination.
	MA	1993	Permit and compliance fees	Varies	All sites not requiring direct state oversight (Tier 1A).	Streamlined cleanup process, no waiting period, clear endpoints.
	NH	1981	State Hazardous Waste Cleanup Fund, Federal VCP grant		Any hazardous waste site.	
	RI	1996	State General Revenues	$1,000	All sites except NPL and LUST sites.	A "Bona fide Prospective Purchaser" (non-PRPs) can enter into a settlement agreement with the State for covenant not to sue protection.
	VT					
2	NJ	1992	Direct billing for staff time.	Direct billing rate (employee's salary and benefits, no indirect costs)	Municipalities, counties, developers, and other private and public parties for any type of hazardous substance site. Parties regulated by other cleanup laws are not eligible.	NFA letters with covenant not to sue language applies to NRPs and provides liability relief protection; a loan and grant program has provided more than $70 million for various under a MOA.
	NY	1994	Fees for cleanup costs and state oversight	No application fee	All sites over which the Department has enforcement jurisdiction and not Class 1 NYS Registry sites or EPA NPL sites.	Protection from future liability for contaminants addressed.
	PR	2000				Liability relief for prospective purchasers and lenders through letters, certificates and/or agreements.
3	DE	1993	Fees	$5,000 annual deposit, additional fees for oversight costs as the cleanup progresses	All sites except those sites under enforcement actions, RCRA corrective action, or that pose an imminent threat to public health or the environment.	Certificate of completion of remedy (all participants), release from liability (prospective purchasers).
	DC	2000	Fees	$10,000	Non-responsible parties for brownfields or any contaminated property not on the NPL and not subject to current cleanup action by EPA or EHA.	Credits to offset real property and business franchise taxes.
	MD	1997	Fees	$6,000	Responsible persons and inculpable persons for any site contaminated or perceived to be contaminated, other than NPL sites, oil sites, sites under active enforcement, or TSD facilities.	Prospective purchasers receive "inculpable" persons designation, relieving them from liability.

Table IV-16: Voluntary Cleanup Programs

Reg.	State	Start Year	State Funded by	Fee	Eligibility	Incentives
3	PA	1995	Industrial Land Recycling Fund, State appropriations, federal funds, fees and fines	$250 for required plans and reports, $500 for site-specific standard final report	All sites not regulated by another Act.	Relief of liability for contamination identified and remediated, financial assistance, standard procedures, and cleanup standards.
	VA	1997	Federal grant money and registration fees.	1% of the remediation costs, not to exceed $5,000	Owners and operators of contaminated sites that are not mandated under a Federal or State regulatory program. NPL, enforcement, RCRA, and UST sites are not eligible.	No Further Action–Certificate of Satisfactory Completion of Remediation issued, provides immunity from enforcement action under State law.
	WV	1996	Flat fees	$1,000, $3,000, or $5,000 depending on the age of the site and the SIC code	All sites not created by gross negligence or willful misconduct, except for NPL sites or those with unilateral orders.	Predictability, the Voluntary Remediation Agreement, and a Certificate of Completion.
4	AL	2001	Fees and reimbursement of oversight costs	TBD	Owners, operators, and prospective purchasers for hazardous substance sites and non-UST petroleum products not including NPL sites, RCRA TSD units, and sites under cleanup order.	Limited liability protection for owner/operators; broad liability protection for prospective purchasers, lenders, clean-hands parties; other incentives to be developed.
	FL		General budget	No fee	Any non-NPL site.	Tax credits for drycleaners
	GA	1996		No fee	Prospective purchasers of any Hazardous Site Inventory sites are eligible; responsible parties for Hazardous Site Inventory sites are ineligible.	Limitation on liability for third party claims for damages or EPD claims for cost recovery.
	KY	2001	Fees (application and oversight)	Based on size of property and cleanup oversight	All hazardous substance sites that are not Permitted Radioactive Facilities, NPL, RCRA, enforcement action or environment emergency sites.	Covenant not to sue, time limits on state review process.
	MS	1997	Fees	$2,000 initially, $75/hour additional, $500 is non-refundable for VCP only	All hazardous substance sites that are not on the NPL, proposed NPL, or RCRA Corrective Action sites.	Liability protection from further cleanup beyond the established base for Brownfields, NFA Letter for Voluntary Evaluation Program participants.
	NC	1987	Fees	VCP $500 fee (for a NFA),	All (Non-NPL and NPL).	Remedial action costs for volunteers are capped at $3M
	SC	1988	Oversight fees for work under VCP contract	n/a	All responsible and non-responsible parties for sites not contaminated by petroleum, on the NPL, or under enforcement action.	RPs are provided with a convent not to sue; NRPs are provided with State superfund liability protection and contribution protection.
	TN	1994	Fees and cost recovery	$5,000	All inactive hazardous substance sites with a release or potential for a release.	Site is not listed, no lien, completion letter issued, no specific liability protection.
5	IL	1986	Fees	Hourly fee based on time charges	All sites that are not Superfund, RCRA, LUST sites, or sites under enforcement action or federal order.	No Further Remediation Letter, release from further responsibilities for remedial action.

Table IV-16: Voluntary Cleanup Programs

Reg.	State	Start Year	State Funded by	Fee	Eligibility	Incentives
5	IN	1993	Fees	$1,000 and additional state costs.	All parties and sites except those that pose an imminent threat or are currently subject to enforcement action.	Certificate of completion (from Agency) and covenant not to sue (from Governor's Office).
	MI	1994		$750 for review	All except for parties subject to administrative order or judicial decree.	New owners and operators may be exempted from liability for existing contamination; financial incentives include grants, loans, tax increment financing, tax credits and tax abatements.
	MN	1988	Fees for service	Approx. $90/hr	Voluntary parties for contaminated sites that will be developed.	Superfund liability assurances.
	OH	1994	Program fees, federal agents, State general revenue funds		Property owners and operators, PRPs, developers, or municipalities for any site that except those covered under another program are eligible.	Covenant not to sue releases volunteer from State Civil liability; tax incentives; low interest loans available through State's water pollution control RLF for brownfield properties.
	WI	1994	Fees and Federal funds	$250 application and $70/ hr oversight	Any party, including responsible parties for hazardous waste sites, including underground storage tanks.	Exemption from future liability under state laws, certificate of completion.
6	AR	1995	Federal grants, State remedial action trust fund	Specific fees not yet formalized.	All sites with industrial, commercial or agricultural activity for which no responsible party can reasonably be pursued or if determined to be in the best interest of citizens to promote redevelopment while continuing to pursue the responsible parties. Ineligible sites include: sites on, or considered for the NPL; RCRA permit sites; sites operating under Interim Status authority AR regulations; and sites subject to a CERCLA or RCRA order.	Non-responsible parties may be allowed to meet alternative cleanup requirements if they acquire title after the nature of conditions at the site have been disclosed and commit to investigate, remediate as necessary, and limit the property to a specified future land use; future liability is limited to contamination arising as a result of the new owner's activities or operations on the site.
	LA	1995 (stat), 2001 (regs)	Initially some federal assistance and fees for participation	$500 application fee and direct costs for review and oversight	All sites that are not listed or proposed on the NPL, permitted hazardous waste management units (HWMUs), Trust Fund eligible USTs, or sites with pending unresolved federal environmental enforcement actions.	Release of liability for costs of cleanup from historical contamination, certificate of completion.
	NM	1998	Grants and fees	$1,000 application fee, $65 per hour oversight fee	All sites not under an enforcement action such as RCRA and all parties that are not regulated under other cleanup laws.	Liability protection for lenders; completion certificate; covenant not to sue from State; enforcement shield.
	OK	1988	Fees for participation and oversight costs		All sites; however, if another program has jurisdiction (i.e., TSCA, LUST) they refer the applicant.	Letter stating that work is complete; tax incentive; financial incentive; low interest loans to municipalities; for RCRA sites, the MOA documents EPA's intention to reevaluate the site's priority status.
	TX	1995	Application fee with subsequent direct billing	$1,000 initially and hourly billing at $95/hour	All sites not under a permit order.	All non-responsible parties are released from liability to the state for any past contamination upon issuance of certificate of completion; parties are protected from enforcement while in VCP compliance.

Table IV-16: Voluntary Cleanup Programs

Reg.	State	Start Year	State Funded by	Fee	Eligibility	Incentives
7	IA	1997 (stat), 1999 (regs)	Applicants cover all costs on a per hour basis	Up to $7,500 per site, additional Expenses paid by Hazardous Waste Remedial Fund	All non-NPL sites.	NFA letter issued, a particular benefit for prospective purchasers and new property owners.
	KS	1996	Reimbursement and a nonrefundable application fee	$200	All sites that are not RCRA, NPL, or enforcement sites; all low and medium risk contaminated sites.	NFA letter and limited oversight is required until cleanup is completed.
	MO	1994	Fees and appropriations	$200 application fee and up to a $5,000 deposit	All non-NPL and NPL-caliber sites and non-RCRA sites.	NFA letter, MOA with EPA.
	NE	1995	Fees for application and participation	$5,000 application fee; $5,000 participation fee	All types of sites.	NFA letter.
8	CO	1994	Fees	$2,000	All property owners for sites that are not RCRA, LUST, or NPL.	NFA letter, protection from Superfund under MOA with EPA, income tax credit.
	MT	1995	Federal grant, EQPF and cost recovery are mandatory		All sites except RCRA, and NPL, LUST, sites subject to agency order.	Closure letter and enforcement stays
	ND					
	SD					
	UT	1997	Participants pay state oversight costs	$2,000 application fee plus actual costs	All sites except NPL, RCRA Corrective Action, and sites with pending enforcement actions.	Participants who are not PRP's may be eligible for a liability release.
8	WY	2000	General funds fees	$35/hour	All sites except NPL, commercial waste facilities, UST/LUST, radioactive waste storage facilities, abandoned mine lands, repeat violators, and sites with a unilateral corrective action order.	NFA letter, certificate of completion, covenant not to sue, potentially land use based soil standards if use control area is designated by local government.
9	AZ	1997	Application fees and reimbursement	$110 per hour	All soil and/or groundwater contaminated sites. Sites that are under enforcement action by another remediation program are ineligible.	Expedited process, single point of contact for projects involving more than one program.
	CA	1993	Reimbursement of oversight fees		All sites except federal Superfund, Military, and LUST sites, or those outside of the State's jurisdiction.	Participants have more control over cleanup timing.
	HI	1997	Voluntary Response Action Account within the environmental revolving fund and State General Fund	$1,000 non-refundable application fee and a deposit of up to $5,000 to initiate a site-specific account.	All releases or threats of releases for which the director is authorized to respond. Ineligible sites include: listed or proposed NPL sites; sites with pending enforcement actions; RCRA sites; sites that pose a substantial threat to human health, the environment, or natural resources; and sites where there is significant public interest.	A letter of completion conferring exemption from future liability.

Table IV-16: Voluntary Cleanup Programs

Reg.	State	Start Year	State Funded by	Fee	Eligibility	Incentives
9	NV	2000	Fees	Application fee, direct and indirect costs	All sites of a probable hazardous substance release except for those sites listed or proposed listed on the NPL or under investigation.	Parties with a Certificate of Completion are not responsible with respect to the release of the hazardous substance.
10	AK	1996	Operating budget	Cost recovery	Low-medium priority sites using the State's hazard ranking model (soil or groundwater contamination by petroleum or inorganic materials). Sites contaminated by solvents are not eligible.	Streamlined oversight.
	ID	1996	Private parties conducting clean up pay for State	$250 application fee, $2,500 refundable deposit	All sites except those regulated for cleanup under federal regulations.	Tax incentives and covenant not to sue.
	OR	1991	Cost-recovery	$5,000 initially, plus additional costs	All non-NPL and non-enforcement sites are eligible for Voluntary Interactive Pathway; low and medium sites for Independent Cleanup Pathway.	NFA letter with limited "reopeners"; no MOA with EPA; Prospective Purchaser Agreement (PPA) available to a limited number of sites offering "substantial public benefit".
	WA	1995	Fees	$500 deposit plus hourly support costs	All sites not under discussion with the department for a formal oversight site agreement or on the NPL.	Expedited cleanup; a property owner may conduct an independent cleanup with technical assistance from the department with a fee; the department will issue a NFA letter or identify the necessary work.

TABLE IV-17: BROWNFIELDS PROGRAMS

Summary

- Thirty-one (31) states have formal brownfields programs, an increase of three states since 1997.
- Most brownfields programs were established by statute; others were established through policies, guidance or regulations.
- Many states limit eligibility for their brownfields programs to underutilized or abandoned sites that have re-development potential, but the precise articulation of the standard varies from state-to-state.
- Three (3) states exclude certain parties responsible for contamination from participating in their programs (Florida, North Carolina, and Pennsylvania).
- Four (4) states (Hawaii, Montana, Oregon, and Wyoming) open their brownfields programs to any sites that are eligible for their voluntary programs.
- Three (3) states have narrow brownfields programs that are limited to properties owned by local governments (Missouri, New Mexico, and New York).

Table IV-17: Brownfields Programs

Reg.	State	Criteria for Inclusion	RCRA Sites	LUST Sites	Incentives/Facilitation
1	CT	Inclusion is decided jointly between the DEP and the Dept. of Economic and Community Development	X	X	Bond funds to clean up sites vital to the economy; covenant not to sue provisions; and option of Environmental Land Use Restriction for the property owner.
	ME	Brownfields are covered by the VCP Program.			
	MA	Inclusion/benefits are available at any site but depend on ownership	X	X	Liability endpoints for eligible persons; fund for site assessments and remediation; state-subsidized environmental insurance; and state tax credits for response actions.
	NH	Hazardous waste/petroleum sites; participant must not have caused contamination	X	X	Covenant program; state assistance for site investigation/cleanup planning using EPA grant; municipal tax abatements; hazardous waste fee exemptions; lender liability protections; and loan fund.
	RI	Abandoned or underutilized sites (loosely defined, includes many property transactions)			Liability protection.
	VT	Hazardous waste sites that are vacant, abandoned, substantially underutilized, or to be acquired by a municipality			Liability protection; grant administration for targeted site assessment; and technical assistance to pilot sites.
2	NJ	Any commercial/industrial site that is vacant or underutilized and on which there is perceived or actual environmental contamination	X	X	Loans and grants from the Hazardous Discharge Site Remediation Fund; and Redevelopment Agreements for developers to reimburse up to 75% of remedial costs.
	NY	All municipally owned sites that are not Class 1 or 2 sites on the State Registry of Inactive Hazardous Waste Sites	X	X	Grants; liability protection/indemnification transferable to future owners and lenders/lessees.
	PR				
3	DE	Any site that is cleaned up to State standards and where employment is created or investments are made for business			Low interest loans; tax credits; and the State is developing a grant program.
	DC	Abandoned, idled property or industrial property where redevelopment is complicated by actual or perceived environmental contamination			Grants, loans, and tax credits to offset real property taxes and business franchise taxes.
	MD	EPA targeted brownfield assessments			Grants/loans for phase I and II environmental audits to PRPs or inculpable persons; loans only for PRPs' cleanups; and grants/loans for cleanups to inculpable persons.
	PA	All sites except for intentional, malicious, illegal disposal and industrial areas where remediator "caused or contributed" to the contamination	X	X	Legal liability relief that stays with the property.
	VA	Sites of local government interest and sites with potential for redevelopment			Site assessment service.
	WV				Brownfields Revolving Loan Fund for site assessments and other related activities.
4	AL	Hazardous waste, hazardous substances, petroleum products (non - UST)	X		Statute establishes incentives commission to recommend future incentives (see Section 22-30E-12).

Table IV-17: Brownfields Programs

Reg.	State	Criteria for Inclusion	RCRA Sites	LUST Sites	Incentives/Facilitation
4	FL	Sites where the remediator has not caused or contributed to site contamination since the date of enactment of the Brownfields Redevelopment Act; certain restrictions apply to sites subject to federal or State; local government must consider nine specific issues outlined in the statute for designations			Liability protection for program participants (and some lenders) from State and third party claims; NFA letters; "Risk Based Corrective Action," whereby participants may be allowed to use alternative CTLs along with institutional and engineering controls to manage risk by controlling exposure; "Bonus Refund" whereby participants receive $2,500 for each new Florida job created; encouragement of local governments to offer redevelopment incentives such as streamlined permitting, tax credits, and low interest loans.
	GA	No formal program. Sites that are listed on the State Hazardous Sites Inventory.			Protection from third party liability; cleanup required for the property only, not for entire plume of contamination.
	KY				
	MS	Remediation must be deemed required by Commission		X	
	NC	Non-NPL or NPL type sites; no causative PRP's			Delay to property tax increase and liability protection.
	SC	Non-NPL sites; no sites solely contaminated by petroleum			State Superfund liability protection and contribution protection.
	TN				
5	IL	All	X	X	Focus on financial incentives.
	IN	Abandoned, inactive or underutilized properties where redevelopment is complicated due to actual or perceived environmental contamination	X	X	Brownfield environmental assessments at no charge; grants and loans for assessment and cleanup; and letters to address liability issues.
	MI	Properties that have a redevelopment potential and are contaminated above residential standards		X	Grants/loans for State-conducted brownfield cleanups; tax increment financing; state business tax credits; and tax abatements.
	MN				
	OH				
	WI	All sites meeting the basic definition of a brownfield	X	X	Grants, loans, tax increment financing districts, and tax credits.
6	AR			X	Federal grant provides funding for targeted brownfields assessments for local governmental clients.
	LA	No set criteria, handled through VCP			
	NM	Municipally-owned properties; properties considered for purchase by municipalities			
	OK	Sites with perceived or actual contamination with regulated substances	X	X	Liability relief; covenant not to sue. If the site is RCRA, the MOA documents EPA's intention to reevaluate the sites' priority status on RECAPS and perhaps lower the site's priority. Tax Incentive-No State sales tax on equipment, machinery, fuel or remedial chemicals charged to cleanup sites under DEQ authority. Financial Incentive-Incentive Payments under the Quality Jobs Program Act for industries that locate their principal operation on a remediated site of 10 acres or larger. Funding-Low interest loans to municipalities to cleanup BFs that have the potential to pollute the waters of the state (Clean Water Act State Revolving Loan Fund). NOTE: BF Certificates must be filed in the County Land Records so that the Certificate travels with the deed. This creates a Notice to the Deed as to the limited use of the property as well as provides liability protection to future owners.
	TX	No distinction from VCP			

Table IV-17: Brownfields Programs

Reg.	State	Criteria for Inclusion	RCRA Sites	LUST Sites	Incentives/Facilitation
7	IA				
	KS				Funds for brownfield assessments and technical assistance.
	MO	Sites must be owned by a public entity and be abandoned for three years			Loans, loan guarantees, and tax credits.
	NE				
8	CO	No special process sites to go through to be considered a brownfields sites			Tax credit for cleanup costs.
	MT				
	ND				
	SD				
	UT				
	WY	Same as voluntary	X		
9	AZ	Sites that are abandoned, idled, or underused industrial/commercial facilities where redevelopment is complicated by real or perceived environmental contamination			EPA-funded environmental assessment grants, EPA-funded environmental cleanup loans, and eligibility for the federal brownfields tax incentive.
	CA	Sites with perceived or actual contamination that are underutilized due to perceived remediation costs and liability concerns	X		Tax credits, loans and grants for cleanups, and limited liability relief.
	HI	Sites are targeted through the VCP			Partial funding through federal grants and state funds.
	NV	All sites except NPL, RCRA corrective action, and UST regulated sites, or those with an imminent threat to human health and the environment due to remediation failure, where cleanup activities are regulated by federal or state court or administrative order, and the order specifically prohibits participation in the Brownfields Program			Hold Harmless letters; liability exemption if property owners/potential buyers agree to remediate to one of the established standards.
10	AK				
	ID				
	OR	Same broad criteria as VCP		X	Loans/grants from OECDD and limited "pass-through" grants from EPA.
	WA	The prospective purchaser must agree to the cleanup and reuse of vacant or abandoned commercial or industrial property	X	X	Liability protections for claims for contribution; a settlement filed with the court; enforcement protection from the State; and settlement agreement may contain a covenant not to sue.

TABLE IV-18: BROWNFIELDS SITES

Summary

- Five (5) states have identified more than 1,000 brownfields sites through their programs: Illinois (1,101), Minnesota (1,703), New Jersey (1,376), Texas (1,245), and Wisconsin (10,000); with an additional eight states with between 100 and 1,000 sites identified: Colorado (277), Connecticut (172), Indiana (175), Maine (258), Michigan (464), Mississippi (100), New Mexico (300), and Pennsylvania (883).

- The number of cleanups underway ranges from zero in several states to 464 in Michigan.

- Five (5) states reported 10 or more redeveloped sites: Colorado (226), Delaware (10), Indiana (15), New Jersey (393), and Rhode Island (60) an additional five states had 10 or more commitments for redevelopment: Connecticut (60), Delaware (10), Indiana (140), Missouri (32), and Rhode Island (12).

Table IV-18: Brownfields Sites

Reg.	State	Sites Identified	Cleanups Underway	Redeveloped Sites	Sites w/Commitment for Redevelopment
1	Connecticut	172	60		60
	Maine	258			
	Massachusetts				
	New Hampshire	21	13	9	4
	Rhode Island	72	20	60	12
	Vermont	7	3	1	5
2	New Jersey	1,376		393	
	New York	95	10	1	
	Puerto Rico				
3	Delaware	89	20	10	10
	District of Columbia				
	Maryland	57			
	Pennsylvania	883	287		
	Virginia	22	6	1	1
	West Virginia			0	
4	Alabama	35		0	
	Florida	41		0	
	Georgia			0	
	Kentucky			0	
	Mississippi	100	2	1	1
	North Carolina	55	9	2	2
	South Carolina	27	6	9	
	Tennessee			0	
5	Illinois	1,101			
	Indiana	175	20	15	140
	Michigan	464	464	0	
	Minnesota	1,703		0	
	Ohio			0	
	Wisconsin	10,000			
6	Arkansas				
	Louisiana	7	7	0	
	New Mexico	300	8	0	8
	Oklahoma	7	1	2	1
	Texas	1,245		0	
7	Iowa	10			
	Kansas				
	Missouri	35	22	10	32
	Nebraska	1			

Table IV-18: Brownfields Sites

Reg.	State	Sites Identified	Cleanups Underway	Redeveloped Sites	Sites w/Commitment for Redevelopment
8	Colorado	277	51	226	
	Montana	8		0	
	North Dakota				
	South Dakota	1		0	
	Utah			0	
	Wyoming	11	2	0	1
9	Arizona	2	0	0	
	California		0	0	
	Hawaii	4	0	0	0
	Nevada	1	1	0	
10	Alaska			0	
	Idaho			0	
	Oregon	44		0	
	Washington		13	0	

TABLE IV-19: LONG-TERM STEWARDSHIP PROGRAMS

Summary

- Forty-one (41) states (including the District of Columbia) report having programs for long-term stewardship (LTS). RCRA is included in this Table primarily to show which states have integrated LTS across all cleanup programs. Oklahoma reported having a program for long-term stewardship only under its RCRA corrective action program, although it allows the use of institutional controls at sites in its voluntary and brownfields programs. Oklahoma is not counted as having an LTS program, but its activities are included in the following totals.

- Three (3) states conduct some LTS activities even though they did not report having an LTS program.

- Seventeen (17) states include their state cleanup program, VCP, brownfields, and RCRA sites.

- Forty-three (43) states (including the District of Columbia) report using institutional controls.

- Thirty-nine (39) states include monitoring as part of LTS.

- Twenty-five (25) states include enforcement as part of LTS.

- Twenty-four (24) states include review and reevaluation of sites as part of LTS.

Table IV-19: Long-Term Stewardship Programs

Reg.	State	Programs Covered				Activities Included				
		State Cleanup	VCP	Brown-fields	RCRA	Monitoring	Institutional Controls	Enforcement	Review and Reevaluation	Other
1	CT	X	X	X	X	X	X			X
	ME	X	X			X	X			
	MA	X	X	X	X	X	X	X	X	
	NH	X	X	X	X	X	X			
	RI	X	X	X		X	X	X	X	
	VT	X		X	X	X	X			
2	NJ	X	X	X	X	X	X	X	X	
	NY	X	X	X	X	X	X	X	X	X
	PR									
3	DE	X	X	X	X	X	X	X	X	X
	DC	X	X	X			X			X
	MD	X	X	X		X	X	X	X	
	PA	X	X		X	X	X			
	VA									
	WV		X				X			
4	AL	X	X	X	X	X	X	X	X	X
	FL	X	X	X	X		X	X		
	GA	X	X		X	X	X	X	X	
	KY	X	X	X	X	X	X		X	
	MS	X	X	X		X	X	X	X	X
	NC	X	X	X		X	X	X	X	
	SC	X	X	X	X	X	X	X	X	
	TN	X	X		X	X	X	X	X	
5	IL	X	X			X	X	X	X	
	IN		X			X	X			
	MI	X		X	X	X	X	X		
	MN	X	X	X	X	X	X	X	X	
	OH	X	X		X	X	X	X		
	WI	X	X	X	X	X	X			
6	AR									
	LA	X	X			X	X	X		
	NM		X			X		X	X	
	OK				X	X	X			X
	TX	X	X	X	X	X	X			X

Table IV-19: Long-Term Stewardship Programs

Reg.	State	Programs Covered				Activities Included				
		State Cleanup	VCP	Brown-fields	RCRA	Monitoring	Institutional Controls	Enforcement	Review and Reevaluation	Other
7	IA	X	X			X	X	X	X	
	KS									
	MO		X	X		X	X			X
	NE						X			
8	CO					X	X	X		
	MT	X	X			X	X			
	ND									
	SD									
	UT	X	X		X	X	X		X	
	WY		X				X			
9	AZ	X	X	X		X	X		X	X
	CA	X	X	X	X	X	X	X	X	
	HI									
	NV	X	X	X	X	X	X	X	X	
10	AK	X	X			X	X		X	
	ID									
	OR	X	X	X	X	X	X	X	X	
	WA	X	X	X	X	X	X	X	X	X

TABLE IV-20: LONG-TERM STEWARDSHIP STAFFING AND TRACKING

Summary

Long-Term Stewardship (LTS) Staffing:

- Twenty (20) states report that some staff have LTS as part of their assigned duties.
- Only five states report that LTS activities account for more than one FTE and only one reports more than five FTE for LTS activities.

Long-Term Stewardship Tracking:

- Twenty-four (24) states report having a system (in most cases a database) for tracking sites subject to LTS.
- Nineteen (19) of those states make their tracking system available to the public.

Table IV-20: Long-Term Stewardship Staffing and Tracking

Reg.	State	Staff	FTE	Tracking Database	Made Public	Database Tracks	Other	Database Sites	Users
1	CT	All tech. Staff		X	X		X	Enforcement, VCP, Brownfields, RCRA, Federal Facility	Staff
	ME	2	0	X	X			Enforcement, VCP	Staff
	MA	34	32	X	X		X	Enforcement, VCP, Brownfields, RCRA, Federal Facility	Staff, public
	NH	1	0.5	X	X	Monitoring		Enforcement, VCP, Brownfields, RCRA	Staff, public
	RI	7	0.1	X	X	Implementation, Monitoring, Enforcement		Enforcement, VCP, Brownfields	Staff, management
	VT		0	X	X	Implementation, Monitoring	X	Enforcement, Brownfields, Federal Facility	Staff, public
2	NJ			X	X	Implementation, Monitoring, Enforcement	X	Enforcement, VCP, Brownfields, RCRA, Federal Facility	Staff; water supply, water allocation staff; public through reporting
	NY	17							
	PR								
3	DE	2	0						
	DC								
	MD	.1	0						
	PA		3	X		Enforcement	X	VCP, Brownfields	Staff
	VA								
	WV			X	X	Enforcement		VCP	
4	AL	20	2						
	FL		1	X	X		X	Enforcement, VCP, Brownfields, RCRA, Federal Facility	Staff, public
	GA	40 - 50	<1						
	KY			X		Implementation, Monitoring, Enforcement		Enforcement, VCP, Brownfields	Superfund Branch staff; DEP staff
	MS	7	<1	X			X	Enforcement, VCP, Brownfields	Staff, consulting industry via Phase 1 Assessments, Public/universities
	NC								

Table IV-20: Long-Term Stewardship Staffing and Tracking

Reg.	State	Staff	FTE	Tracking Database	Made Public	Database Tracks	Other	Database Sites	Users
4	SC		0	X		Monitoring		Enforcement, VCP, Brownfields, Federal Facility	Project Manager, supervisors
	TN		0						
5	IL	Limited							
	IN	1	2	X	X	Monitoring	X	VCP	Project managers
	MI								
	MN								
	OH			X	X	Monitoring		VCP	
	WI			X	X		X	Enforcement, VCP, Brownfields, RCRA, Federal Facility	Staff, public
6	AR								
	LA								
	NM	2	.25						
	OK		0						
	TX	1	0.5						
7	IA	8	1	X		Monitoring		Enforcement, VCP, Federal Facility	Technical staff
	KS								
	MO		0.1						
	NE		0						
8	CO		0	X	X	Implementation		Enforcement, RCRA, Federal Facility	State, local governments
	MT								
	ND								
	SD								
	UT	4	1	X	X	Monitoring		VCP, Federal Facility	Staff
	WY								
9	AZ	TBD							
	CA			X	X	Implementation, Monitoring, Enforcement	X	Enforcement, VCP, Brownfields	Staff, public
	HI								
	NV			X	X			RCRA	
10	AK	27	1-2	X	X				
	ID								
	OR	4	<1	X	X	Implementation		Enforcement, VCP, Brownfields, RCRA, Federal Facility	Staff, public and local jurisdictions
	WA	87	<1	X	X	Implementation, Monitoring, Enforcement	X	Enforcement, VCP, Brownfields, RCRA, Federal Facility	Project managers, IT specialists and policy staff

TABLE IV-21: INSTITUTIONAL CONTROLS

Summary

- Thirty-eight (38) states use proprietary institutional controls.
- Thirty-three (33) states use informational systems as institutional controls.
- Twenty-nine (29) states use governmental institutional controls such as zoning or building permits.
- Twenty (20) states report layering institutional controls at a site.
- Seventeen (17) states have a schedule for reviewing sites with institutional controls.
- Seven (7) states review sites with institutional controls at least annually.
- One state says it will not review any sites with institutional controls.

Table IV-21: Institutional Controls

Reg.	State	G/R	PIC	ID	Sites w/ Mult. ICs	Mult. IC Criteria	Frequency of Audits	Reopener Types
1	CT		X	X			Not on any schedule	A land use restriction can be released by the Commissioner if the owner of the property wishes to remediate to the residential standard.
	ME	X	X				Not a regular process, have reviewed a small number with problems	Discovery of new problem/ change of use/ additional information
	MA		X	X			20% of all sites annually; all sites with deed notices have been audited	Additional site work can be required as the result of audit. Voluntary retraction and amendment allowed for parties who wish to conduct additional cleanup work.
	NH	X	X	X	0			Must be maintained or remedial action plan can be revisited.
	RI	X	X			Deed restriction required; must maintain remedy	Annually	Include but are not limited to: failure of holder of interest in property to adhere to terms and conditions of Environment Land Usage Restriction (ELUR); failure of holder of interest in property to properly record ELUR in land evidence records; conditions previously unknown to dept. are discovered; policy or regulation changes
	VT	X	X	X	All	Includes information devices	Indirect only	Any change in use eliminates all liability protection under enforcement program, but enforcement is not routine. There are no reopeners for brownfields.
2	NJ		X	X		When both soil and ground water contamination will remain at a site above cleanup standards, or when multiple ground water plumes are present with different contaminants.	Biennially	If the Department learns that the approved remedy is no longer protective of public health and safety and of the environment.
	NY	X	X	X	Majority of sites with ICs		Annually	Change of site use; failure to maintain the controls; discovery of contamination not previously known to the Department; off-site migration of contamination (under some circumstances); a new contaminant release or discharge; fraud committed by a volunteer
	PR							
3	DE	X	X	X	> 20	Site-specific amount and type of pollution, current and future land use, and existing engineering controls.	When the system is created, review will be annual	Discovery of contamination not previously identified.
	DC		X	X				Fraud, new or previously undiscovered contamination, or change in land use.
	MD	X	X	X	Often	Containment remedies: deed restricts to non-residential use, groundwater use restrictions	One to five years	Break deed restriction or institutional control, or new discovery of contamination

G/R = Govt./Regulatory Institutional Controls
PIC: Proprietary Institutional Controls ID: Informational Devices

Table IV-21: Institutional Controls

Reg.	State	G/R	PIC	ID	Sites w/ Mult. ICs	Mult. IC Criteria	Frequency of Audits	Reopener Types
3	PA	X	X	X	< 20	It is the option of the remediator.	Intend to review annually	Fraud, previously unknown contamination, failure to meet cleanup standards, change in land use or other change that increases risk beyond acceptable range, and new release at a non-industrial site where treatment, removal or destruction has become economically or technically feasible.
	VA							
	WV							Fraud, new information, increased level of risk due to changes in exposure conditions, failure, and release after the effective date of the statute.
4	AL	X	X	X	1	Site-specific needs, type of contaminant, concentration	TBD	Permittee may request modification of the enabling document (permit/order); under ALRERA, change in use may require additional cleanup.
	FL	X	X	X		Extent of contamination; complexity of remedy	Policy under development	See example at section 376.82(3)
	GA		X	X		Regulatory requirements, site-specific factors.	Varies by site, quarterly to yearly reports are generally required	Changes in conditions at the site.
	KY	X	X	X	4	KRS 224.01-400 (18-21)	Every five years	If evidence of the release is found or if other releases are discovered.
	MS	X	X	X	All	Brownfield Statute		Fraud; new information on contamination that "raises the level of risk above the level that was the basis of the Brownfield agreement;" off-property migration; plume expands/migrates beyond site boundaries
	NC	X	X					
	SC	X	X	X			Every five years; more frequently based on site-specific conditions.	If use changes, require additional cleanup or other approval.
	TN		X	X		Attempt to have all sites layered.	Site dependent, but at least every five years	Failure of remedy, change in land use, exacerbation of contamination, new information, new contamination
5	IL	X	X					NFR Letters may be voided by state action
	IN	X	X	X	≤Five per year	Non-contradictory, e.g. non-residential land use with ordinances prohibiting groundwater use	Annually	
	MI	X	X	X			No specific review program is in place	If the site becomes a threat to public health, safety, welfare, or the environment
	MN	X	X	X		No set criteria, based on site-specific conditions, appropriations, future use, etc.	No formal review process or mechanism	Changes in land use or development plan, discovery of new contamination

G/R = Govt./Regulatory Institutional Controls
PIC: Proprietary Institutional Controls ID: Informational Devices

Table IV-21: Institutional Controls

Reg.	State	G/R	PIC	ID	Sites w/ Mult. ICs	Mult. IC Criteria	Frequency of Audits	Reopener Types
5	OH	X	X	X			Every five years	For enforcement program sites, if there is a change in land use the site will be reopened and liability that was lifted upon the signing of the ROD may be reinstated.
	WI						Never	New data requiring additional investigation and remediation
6	AR							
	LA	X	X	X			No set basis for review.	Change in land use (from industrial to non-industrial); previously unknown information that may affect the integrity of the approved corrective action.
	NM						Every two years for the first 10 years; every five years thereafter (none yet)	Site demonstrates a threat to human health of the environment remains.
	OK	X	X	X	All sites with proposed ICs	To ensure that ICs are self-implementing, policy requires sites using these controls to have more than one control in place.	No set schedule, DEQ prefers self-implementing controls.	Reopeners apply to all sites and include: catastrophic failure of the remedy, fraud, discovery of historic contamination not found previously, and emergencies.
	TX	X	X				No specific requirement, but will likely use Risk Reduction Program requirements.	Under the Texas Risk Reduction Program: failure to prevent exposure at the approved performance level; actual exposure is occurring at levels not protective of human health or the environment; new information about COCs such that an unacceptable threat to human health or the environment continues to exist; the exposure area upon which representative concentrations are based changes, resulting in an unacceptable threat to human health or the environment; a health and safety plan to ensure compliance with occupational inhalation criteria as RBELs will no longer be maintained
7	IA	X	X	X	0		Annually after implementation	A change in land use or discovery of additional contaminants.
	KS							
	MO		X	X	3	Future land use (commercial or industrial) governs the use of multiple ICs.	Sites with a restrictive covenant or engineered control are inspected annually.	If the restrictive covenant is not followed or the engineered control is not maintained, the Certificate of Completion letter may be rescinded.
	NE	X	X	X	2	EPA guidance	Plan to review annually or as part of 5-year review	Reevaluate remedy if the IC is determined to not be working.
8	CO						No set review schedule, occurs with change in land use or application for building permit	New information found
	MT	X	X	X				Any new information

G/R = Govt./Regulatory Institutional Controls
PIC: Proprietary Institutional Controls ID: Informational Devices

Table IV-21: Institutional Controls

Reg.	State	G/R	PIC	ID	Sites w/ Mult. ICs	Mult. IC Criteria	Frequency of Audits	Reopener Types
8	ND							
	SD							
	UT						Depends on the individual site	If new information indicates that an unacceptable exposure could occur
	WY	X	X	X				Failure to comply with remedy agreement, imminent and substantial endangerment to human health or the environment, discovery of previously unknown contamination, monitored natural attenuation is not effective in meeting standards.
9	AZ		X	X			Annually	A Deed of Environmental Use Restriction is being developed. Once it has, if an owner of wishes to do something on the land that was prohibited by the deed, the property will be reopened for cleanup to the new use standards.
	CA	X	X	X				There is a process to remove deed restriction for sites remediated to an unrestricted use. Deed restrictions can be modified or removed. Fact Sheet for regulations on Land Use Covenants and requirements are in draft form.
	HI							
	NV							
10	AK		X	X			Not tracked	Regulatory, if determined decision not protective
	ID							
	OR	X	X	X	Most sites with residual contamin-ation	Generally the greater the residual risk, the greater the layering	Five years or less	If restriction is not maintained; use changes; or new data is found, site may be reopened.
	WA	X	X	X		Protectiveness of remedy components that are permanent to the maximum extent practicable.	Every five years	Department requires that any site where unrestricted land use is not met to prove the cleanup remedy is protective of human health and the environment.

G/R = Govt./Regulatory Institutional Controls
PIC: Proprietary Institutional Controls ID: Informational Devices

CHAPTER V: STATE SUMMARIES

REGION I

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

CONNECTICUT

State Sites

Known and Suspected:	5,416
Identified as Needing Attention:	2,107
On Priority List:	672

Statuatory authorites

Public Act 87-561, codified at Conn. Gen. Stat. §22a-114 and §§22a-133a through 133j (1987, as amended 1989 and 1995), authorizes the Department of Environmental Protection (DEP) to clean up hazardous waste disposal sites and to use funds from the Emergency Spill Response Account or other accounts authorized by law for cleanup purposes. The law provides for enforcement; strict, joint and several liability; and cost recovery.

Public Acts 95-190 and 95-183 establish a voluntary cleanup program and the Licensed Environmental Professionals program. These provisions are codified at Conn. Gen. Stat. §§22a-133v through 133y.

Public Act 98-134 is codified as Conn. Gen. Stat. §§22a-6u and provides the authority to require reporting certain significant environmental hazards.

The *Transfer of Hazardous Waste Establishments Program Law,* Conn. Gen. Stat. §§22a-134 through 134e (1985), creates a property transfer program. §22a-134 was amended by Public Act 95-183, Public Act 96-113 and Public Act 97-218, and most recently with Public Act 01-204, concerning business transfers.

The *Water Pollution Control Laws*, Conn. Gen. Stat. §§22a-432, 22a-433 (1967 and subsequent amendments), provide authority for administrative cleanup orders.

The *Urban Sites Remedial Action Program Law*, Conn. Gen. Stat. §22a-133m (1992, amended 1993), provides funding to clean up urban industrial sites and addresses hazardous substance cleanup in connection with property transfers and voluntary cleanups.

The *Emergency Spill Response Fund Law*, Conn. Gen. Stat. §22a-451(d) (1982, amended 1995), establishes the response fund, provides enforcement authorities, and allows for replacement of water supplies. The 1995 amendment, Public Act 95-208, transferred this fund to the State general fund as of July 1, 1995.

Conn. Gen. Stat. §22a-471 (1982, amended 1983-88, 1993-95), authorizes the DEP to arrange for the short-term provision of potable drinking water where pollution of ground water creates an unreasonable risk for health or safety; to issue orders requiring the provision of such water supplies; and to advance to municipalities the cost of providing drinking water from the proceeds of any bonds authorized for that purpose.

Program Organization and Funding

The Department of Environmental Protection (DEP), Bureau of Water Management, Permitting, Enforcement and Remediation Division includes 37 FTE staff associated with non-NPL remedial activities. Forty-one (41) FTEs are authorized for such work within the Division. The Attorney General's office and the DEP Counsel to the Commissioner provide legal support with a total of two attorneys, who spend time on State cleanup and enforced remedial action orders. Funding for staff and administration of both State cleanup and voluntary actions comes from the State cleanup fund (40 percent), federal grants (35 percent), the Environmental Quality Fees Fund (15 percent), and the State general fund (10 percent).

Cleanup Activities

No information was available for the numbers of non-NPL cleanup activities in Connecticut during FY00. However, of the 672 sites on the State inventory, eight are currently active on the priority list, meaning they are deemed eligible for State funding. In order to qualify for State funding a site must present an unacceptable threat to public health and the environment and have a responsible party who cannot be identified or is not in timely compliance with an order issued by the Commissioner to provide remediation. A site may also be eligible if a State-issued

order has been appealed and a final decision has not been rendered. The State adopted regulations concerning the prioritization of sites eligible for State funding shortly after the State Superfund program was established in 1987.

A total of 151 sites have entered into the State's two voluntary remediation programs since their inception. Remediation has been completed at five of these sites.

Cleanup Funding

The principal funding vehicles for State funded remedial actions are the State Superfund Bond Fund and the Urban Sites Remedial Action Fund (USRAF). Sources for both funds are general obligation bond funds. The State Superfund had a balance of $17.5M at the end of the FY00, none of which was obligated or encumbered. Money from the fund may be used for site investigation, studies and design, removals, remedial actions, CERCLA match, operations and maintenance, emergency response, victim compensation, grants to local governments, program administration, and natural resource restoration.

The USRAF had a balance of $6.7M at the end of FY00. $4M of the fund was obligated for non-NPL sites and $5M was added to the fund in FY00. The USRAF is used primarily for site investigation, studies and design, operations and maintenance, removals, and remedial actions.

Cleanup Policies and Criteria

The State's Remediation Standard Regulations set cleanup standards for hazardous substance sites and apply to State-ordered cleanups, including RCRA and leaking underground storage tank sites, as well as voluntary cleanups. The regulations, which establish groundwater and soil cleanup standards, are health based for specific chemicals and use water quality criteria. In the case of substances for which there are no numerical standards, the regulations include procedures for determining risk-based cleanup criteria. The risk levels used for establishing cleanup standards are typically 10^{-6} for carcinogens with a Hazard Index of 1 for non-carcinogens. Background concentrations in excess of numeric criteria may be used in certain circumstances. The Remediation Standard Regulations contain numeric cleanup criteria for soil and soil vapor for both unrestricted residential or restricted industrial/commercial land use. The Remediation Standard Regulations indicate when Environmental Land Use Restrictions (ELURs), pursuant to CGS §22a-133n through 133s, are necessary. If cleanup standards are based on land use restrictions, an ELUR must be filed in the municipal land records. Regulations and formats pertaining to ELURs are found in the Regulations of Connecticut State Agencies (RCSA) §22a-133q.

Public Participation

The State's voluntary cleanup law and the Remediation Standard Regulations require notice of voluntary cleanups and an opportunity for comment, as well as public hearings if there is substantial public interest in the remediation. The regulations also provide for public notice and an opportunity for a public hearing when the Commissioner is asked to approve a request by a property owner for an engineered control, such as a cap, to address polluted soil. For State-funded projects, the DEP holds public meetings at various stages of the investigation and cleanup.

Enforcement

Liability

Legal authorities include strict, joint and several, and retroactive liability, orders for information and site access, subpoena authority, administrative and consent order authority, injunctive action, and cost recovery authority. Civil penalties of $25K per day are available under the hazardous waste program. Punitive damages of one and a half times costs are available in cost recovery actions. According to State law, any amounts paid by the State in cleanup costs shall be a lien against the property, and such liens take precedence over prior liens except in the case of residential property or property transferred pursuant to the State property transfer law. The preferred enforcement method is consent order, followed by administrative order or court action. The State is required to attempt cost recovery.

Property Transfer

The property transfer law requires a seller of an "establishment" (as defined by statute) to disclose the environmental status of a property to the buyer at the time of transfer, and based on the environmental status of the property, one of four forms must be filed with DEP. If there has been a release at the site that has not been remediated in accordance with the Remediation Standard Regulations, the law requires that a party to the transfer accept responsibility for implementing required remedial measures. The State maintains a database of property transfer filings.

For residential property, the Connecticut Department of Consumer Protection's Uniform Property Condition Disclosure Act, Public Act 95-311, CGS §20-327 b-e, requires disclosure of certain information from the seller to the buyer prior to the transfer.

Voluntary and Brownfields Programs

The State has two voluntary cleanup programs, established under sections 22a-133x and 133y of the Connecticut General Statutes. Both programs provide for remediation under the supervision of a Licensed Environmental Professional (LEP) in lieu of direct DEP review and approval. The 133x program has more participants, and is available for sites that are: (1) owned by municipalities; (2) establishments subject to the requirements of the property transfer program; (3) located in GA or GAA ground water areas; or (4) listed on the State inventory of hazardous waste disposal sites. The 133x program has more DEP involvement than the 133y program, and upon successful completion of remedial action under 133x, no additional remediation would be necessary to satisfy the remediation requirements of the property transfer program. The 133x remediation program requires a $2K review fee that can be applied toward the property transfer filing fee required by CGS 22a-134a. The fee covers the Department's processing and review of the Environmental Condition Assessment Form (ECAF) and the Department's determination of whether DEP will retain oversight over remedial actions of a LEP.

The 133y program is available for properties located in a GB or GC groundwater areas, and not subject to any order, consent order, or stipulated judgment issued by the DEP Commissioner. The 133y program requires the submittal of a remedial action plan and schedule to DEP and public notice of remedial action prior to the commencement of cleanup activities. There is no fee for participation in the 133y program, and completion of a cleanup in this program, which is documented by the approval of a final remedial action report, may be used to satisfy the remediation requirements of the property transfer program.

In 1996, Public Act 96-113 authorized the State to enter into a covenant not to sue with certain owners or prospective purchasers of contaminated property subject to a remediation plan approved by the State.

The State's brownfields program is established by statute (CGS §22a-133m). To be included, sites must be in distressed communities, and must have a high economic development potential, as determined by the Department of Economic Development. Incentives for participation in the program include bond funds to clean up sites that are vital to the economy; covenant not to sue provisions; and options for Environmental Land Use Restriction by the property owner. In addition, the State is authorized to acquire sites and to assume liability under State law for up to $15M in cleanup costs. Thus far, 172 sites have been identified by the State as brownfields.

Long-term Stewardship and Institutional Controls

Connecticut's State, voluntary, and brownfields cleanup programs all contain informal measures for long-term stewardship. These include post remediation monitoring of groundwater, use of ELURs, and long-term operation, inspection, maintenance, and monitoring of engineered controls when relevant. Long-term stewardship is considered to be part of regular technical staff duties and does not have specifically designated funding. The State has a database that is available to the public by request and tracks approved ELURs, including those at federal facility sites. This database is primarily used by the DEP staff and includes 54 sites where ELURs have been approved and 17 sites where certificates of title have been issued, indicating that the approved ELURs have been recorded on the land records.

MAINE

State Sites

Known and Suspected: 475
Identified as Needing Attention: 83
On Inventory or Priority List: 475

Statutory Authorities

The *Uncontrolled Hazardous Substance Sites Act*, Maine Rev. Stat., Title 38, §§1361 through 1371 (1983, as amended 1985, 1987, and 1990), establishes the Uncontrolled Sites Fund and authorizes the Department of Environmental Protection to clean up uncontrolled hazardous substances sites. The law provides for enforcement; strict, joint and several liability; cost recovery; and natural resources damages assessment and recovery.

Maine Rev. Stat., Title 38, §§343-E (1993), creates a program for voluntary cleanup of hazardous waste sites.

Program Organization and Funding

The Department of Environmental Protection (DEP), Bureau of Remediation and Waste Management, Division of Remediation has six FTE staff working on uncontrolled sites (seven FTEs are authorized) and one FTE on voluntary sites. One fifth of a position in the Attorney General's office is devoted to superfund-type enforcement activity. The DEP also works with the Bureau of Health in conducting risk assessments and lab work. Funding for administration costs of the State cleanup program comes from the State Cleanup Fund (98 percent) and federal CORE/Cooperative Agreements (2 percent). The VCP/Brownfields program administration costs are financed by the State Cleanup Fund (30 percent), federal CORE/Cooperative Agreements (30 percent), and fees (40 percent).

Cleanup Activities

During 2000, cleanup activities were completed at a total of 47 sites, six of which were under the State program and 41 under the voluntary program. Cleanup activities are underway at approximately 38 State sites and 23 voluntary sites. Cleanup has been completed at a total of 279 non-NPL sites since the start of the agency's cleanup programs. Of these, 77 are under the State program and 202 are under the voluntary program.

Cleanup Funding

Maine uses two accounts for cleanup funding: (1) the Uncontrolled Sites Bond Account, which contained approximately $4.3M; and (2) the Uncontrolled Sites Fund, which contained $5.0M; both as of April 1, 2001. Expenditures from the Bond Account totaled $1.15M and $1.0M was added to the Bond Account during FY00. The State spent $845K from the Uncontrolled Sites Fund during FY00, and $550K was added. The monies from both funds were spent at non-NPL sites. The State has obligated or encumbered $384.8K of the Bond fund. Both funds may be used for site investigation, CERCLA match, removals, studies and design, remedial actions, natural resource restoration, operations and maintenance, grants to local government, and long-term stewardship. Costs for program administration are paid from the Uncontrolled Sites Fund. Cleanups of closed municipal landfills are financed through a separate bond fund and statutory authority.

Cleanup Policies and Criteria

Maine determines cleanup levels on a case-by-case basis, performing either a site-specific risk assessment or using previously derived standards for the appropriate media. The voluntary program uses the future use to determine the appropriate exposure category, recording it in the final certification document at the registry of deeds. Future water uses, MCL/MCLGs, toxicity levels, and risk to human health are all considered. The State uses a risk level of 10^{-5}

(cumulative) for carcinogens and a Hazard Index of 1 for non-carcinogens. Maine has applied background level cleanup standards for groundwater contamination at urban sites or rural areas where drinking water is not affected. The State has published soil cleanup guidelines that describe cleanup scenarios based on different categories of exposure: residential, adult worker, and trespassers. Assumptions about future site-specific land use are based on current and future use, and the agency has authority to require deed restrictions to maintain the future land use.

Public Participation

Maine has no formal requirements for public involvement. DEP policy is to keep local officials and residents informed. Public notice requirements, public comment periods, and hearings or meetings are convened as necessary for both the State and Voluntary/Brownfields programs.

Enforcement

Liability

Legal authorities include strict, joint and several, and retroactive liability; orders for information; site access and remediation orders; administrative order authority; cost recovery; liens and superliens; and punitive damages of treble the State's costs. The Commissioner must designate a site for a consent decree. Penalty authority is derived from the hazardous waste statute. The DEP also has a property forfeiture provision.

Property Transfer

Maine requires that a seller disclose the presence of hazardous substances contained within a site before the transfer. Legislation enacted in 1993 also requires auditors to disclose to a private requestor of an audit any discovery of a release or presence of hazardous substances on a site that may cause significant threats to public health or the environment; the property owner then has a duty to disclose their presence to DEP.

Voluntary and Brownfields Programs

The State's voluntary program, which started in 1993, is an alternative to the State's regular cleanup program. Some monies are dedicated to fund the State's participation, and participants pay a $500 application fee and are charged for time spent by the State. Participants may include purchasers, lenders, sellers, and potentially responsible parties. Site owners are able to receive full or partial liability releases depending on the cleanup work carried out at the site. Incentives for participation also include a certificate of completion from the State and protection from State enforcement actions.

The State does not have a brownfields program, but includes brownfields sites as part of the VCP. Currently 258 brownfields sites have been identified.

Long-term Stewardship and Institutional Controls

Maine is in the process of developing a long-term stewardship program. Institutional controls are used at uncontrolled and VCP sites where the cleanup does not meet unrestricted use standards. The Bureau maintains a database and a notebook that contain all of the institutional controls at sites, both of which are available to the public but not easy to use. The Bureau does not have a standard system for reviewing sites where institutional controls are in place, but hired two interns to review all of the institutional controls in place and to report on their status.

MASSACHUSETTS

State Sites

Known and Suspected:	2,305
Identified as Needing Attention:	2,305
On Inventory or Priority List:	441

Statutory Authorities

The *Massachusetts Oil and Hazardous Material Release Prevention and Response Act*, Mass. Gen. Law c. 21E (1983, as amended in 1986, 1992, 1994 and 1998), authorizes the Department of Environmental Protection to ensure the clean up of sites contaminated by oil or hazardous material. The law provides for enforcement; strict, joint and several liability; cost recovery; public participation; natural resources damages assessment and recovery; the cleanup fund; a priority list; citizen suits; voluntary cleanups; and brownfields cleanups.

Program Organization

The Department of Environmental Protection's (DEP) Waste Site Cleanup Program has a total of 220 FTE staff, 190 of which work on non-NPL sites. The Bureau of Waste Site Cleanup is the lead bureau administering the Waste Site Cleanup Program. The Bureaus of Waste Prevention and Resource Protection also have staff dedicated to the program. In addition, 14 FTE attorneys from DEP's Office of General Counsel and seven FTE attorneys in the Attorney General's office provide enforcement support. Scientists in DEP's Office of Research and Standards provide risk assessment support at specific sites and in regulation and policy development. In FY00, funding for administration and staff for the entire chapter 21E cleanup program was provided by the State general fund (5 percent), the State cleanup fund (40 percent), federal grants (11 percent), and a combination of other sources such as the State LUST Trust Fund and the State Clean Environment Fund (44 percent).

Cleanup Activities

Cleanup activities have been completed at 3,087 non-oil sites since the State's cleanup program was redesigned in October 1993. In FY00 cleanup activities were completed at 463 sites. The State currently has cleanups underway at 1850 sites. All but approximately 200 of the cleanups completed since 1993 have been voluntary, as were 450 of those completed in FY00, and 1,658 of the current cleanups.

Cleanup Funding

Three funds exist to finance cleanup activities. They are: 1) Bonds (General Obligation), 2) Oil and Hazardous Material Response Loan, and 3) Brownfields. In FY00 the Bond fund expended $17.4M, with $4.4M paid out for non-NPL sites. As of December 2000, the Bond fund had a balance of $53.9M. DEP has spent about $133M from the fund since 1983. The Response Loan expended $15.3M in FY00 on non-NPL cleanups. The 1998 Brownfields legislation provided $10M to the DEP Brownfields fund, which spent $3.2M in the past year, entirely on non-NPL sites. The Bond fund may be used for site investigation, studies and design, removals, emergency response, remedial actions, CERCLA match, operations and maintenance, and grants to citizen groups and local governments for technical assistance. The other two funds are used for program administration costs and, in the case of the Brownfields Fund, for audits of site cleanups.

Cleanup Policies and Criteria

Massachusetts' policy states that permanent cleanup solutions must eliminate significant risk of harm to health, safety, public welfare and the environment; and cleanup to background conditions is required where feasible. Temporary solutions are required at all sites if a permanent solution is infeasible.

Regulations (the Massachusetts Contingency Plan) set out three methods for establishing cleanup standards at disposal sites. The first method relies on numeric cleanup standards for 105 chemicals in three groundwater categories and three soil categories. The second method allows modification of the numeric standards based upon site-specific fate and transport information. The third method establishes cleanup goals based on site-specific conditions and a quantitative risk assessment. For sites at which a quantitative risk assessment is used to determine cleanup standards, any applicable or suitably analogous Massachusetts' health and environmental standard must be met, and Cumulative Receptor Risk Limits must be achieved. The cancer risk limit is a cumulative excess lifetime cancer risk of 10^{-5}. The non-carcinogen risk limit is expressed as a Hazard Index of 1, and is calculated for groups of chemicals with the same mechanism of toxic action.

Activity and Use Limitations are required if the remediation goals are based upon anything less than the most sensitive (*i.e.*, residential) use. Use restrictions are implemented through a deed notice or deed restriction.

Public Participation

The Massachusetts statute and regulations require public notice of all classifications of disposal sites and applications for Tier I permits for response actions. When citizens petition for community involvement in response actions, a Public Involvement Plan must be prepared. State technical assistance grants and public site inspections are also available. Local officials are informed of key site activities throughout the cleanup process. The person conducting the response action is required to implement public involvement activities.

Enforcement

Liability

Massachusetts has strict, joint and several, and retroactive liability. Civil penalties of $25K per day are available. The DEP provides PRPs with an opportunity to clean up a site; if the party cannot or will not, DEP may clean up the site and recover costs. The rate of voluntary cleanups is high (95 percent), which program staff attribute to the statute's provisions for priority liens, punitive damages equal to treble the State's costs; and annual compliance assurance fees, which are assessed for every year a site is in the cleanup process. The 1992 statutory amendments authorize DEP to issue an order to remedy an imminent hazard, which is enforceable immediately and not subject to judicial review except in a proceeding to collect penalties for violations of the order or to obtain reimbursement for the costs of complying with the order.

Property Transfer

Massachusetts has no property transfer provisions. The State maintains a database of sites that is publicly available.

Voluntary and Brownfields Programs

Since 1993 Massachusetts' statute has authorized voluntary cleanups as an integral part of the cleanup program. Anyone is eligible to participate in a voluntary cleanup. Incentives for participating in the program include a streamlined cleanup process, no waiting period for State oversight, and clear endpoints. Funding for the State's activities comes from permit fees (for "Tier 1" cleanups) and compliance fees.

Massachusetts' Brownfields program, previously limited to a covenant not to sue provision, was expanded by legislation in 1998 that added a number of tools designed to encourage and assist redevelopment of brownfields sites. These tools include liability endpoints, a fund for site assessments and remediation, State-subsidized environ-

mental insurance, and State tax credits for response actions. These tools are available at any brownfields site depending upon ownership, location, and development plan.

Long-term Stewardship and Institutional Controls

Massachusetts has implemented an audit program which aids in long-term stewardship and that covers the State and voluntary, brownfields, and RCRA cleanup programs. The program includes monitoring, institutional controls, enforcement, and review. The audit program is staffed with 32 FTE staff whose work includes long-term stewardship of sites, more short-term activities, and auditing sites with activity and use limitations. The program includes a database to track the cleanup process at all sites, including federal facility sites. This site progress database is available to the public by request, although the primary users of the system are State employees.

Institutional controls implemented by the State have dealt primarily with deed restrictions (Grants of Environmental Restriction) or deed warnings. The State also publishes notices in the local newspaper, distributes mailings to relevant residents, and includes notices in a site register made available to the public through the Internet in order to notify the public on site progress/institutional controls. Massachusetts permits the use of institutional controls as the sole remedy for a site and it has occurred at 183 sites.

NEW HAMPSHIRE

State Sites

Known and Suspected:	388
Identified as Needing Attention:	388
On Inventory or Priority List:	388

Statutory Authorities

The *New Hampshire Hazardous Waste Cleanup Fund Act* (HWCF), NHRSA Chapter 147-B (1981, as amended 1983, 1985, 1986, 1987, 1990 and 1991 and 1996), establishes the Hazardous Waste Cleanup Fund and authorizes the Department of Environmental Services to use the fund for expenses directly associated with cleanup of hazardous waste or hazardous materials. The law provides for enforcement; strict, joint and several liability; and cost recovery. NHRSA Chapter 147-B and Chapter 147-A (hazardous waste management), provide general authority for voluntary cleanups.

NHRSA Chapter 485 (1996) and the Groundwater Management and Release Rules, ENV-Wm 1403, authorize the designation of groundwater management zones as a component of the remediation of contaminated groundwater and provide for the issuance of permits for the remediation. The law also requires recipients of a permit to record notice of the groundwater management zone with the registry of deeds.

NHRSA Chapter 147-F (1996), establishes the State's brownfields program, including long-term stewardship, and authorizes use of funds for State cleanup, voluntary cleanup, and brownfields sites.

Program Organization and Funding

The Waste Management Division of the Department of Environmental Services (DES) administers the Hazardous Waste Cleanup Fund (HWCF). The Hazardous Waste Remediation Bureau is primarily responsible for federal and State Superfund work and has 27 FTE staff, 19 of which work on non-NPL sites. The Department of Justice (Attorney General's office) provides legal support through two FTE attorney positions and receives an annual appropriation from the HWCF. The program's funding for administration and staff comes from the HWCF (44 percent), the State general fund (6 percent) and federal grants (50 percent).

Cleanup Activities

The State reports that 286 non-NPL sites are currently being investigated or cleaned up. Approximately 344 sites have been cleaned up on a voluntary basis since the start of the program, with 46 completed in the past fiscal year. All of the current non-NPL sites are considered to be part of the State's voluntary program. New Hampshire has also identified approximately 40 brownfields sites within the State. In addition to staff and administration, the HWCF has been used for emergency removal activities and for various hydrogeological studies at sites in the preliminary stages of investigation.

Cleanup Funding

The balance in the HWCF at the end of FY00 was $7.8M, all of which was obligated or encumbered. During FY00, $1.6M were added to the fund and $2.1M were paid out, all for non-NPL sites. The HWCF is derived primarily from quarterly fees paid by generators of hazardous waste, recovered costs, fines, and penalties. An average of $1.5M is collected each fiscal year. The HWCF can be used for site investigation, operations and maintenance, studies and design, removals, emergency response, victim compensation, remedial action, program administration, grants to local governments and long-term stewardship. State law requires that the governor certify that circumstances require use of the fund. NHRSA Chapter 147-B provides for issuing bonds, to be paid from the HWCF, to

fund remedial investigation and cleanup. A separate capital bond is appropriated for CERCLA match for each fiscal year.

Cleanup Policies and Criteria

Cleanup levels for all sites must meet or exceed any federal standards. Sites must achieve existing federal standards for groundwater and surface water. The State has developed a Risk Characterization and Management Policy, which provides for a three-tiered approach to selecting cleanup standards. The first two tiers incorporate established values, starting with look-up tables for soil and groundwater, while the third tier involves site-specific risk assessment. The State uses risk levels of 10^{-6} (individual) or 10^{-5} (cumulative) for carcinogens and a Hazard Index of 1 for non-carcinogens.

Where land use assumptions are a basis for establishing cleanup standards, New Hampshire considers municipal zoning, well-head protection and aquifer protection. The State also requires that Activity and Use Restrictions (AURs) be recorded on the deed where necessary based on risk-based exposure criteria. In addition, NHRSA Chapter 485 authorizes the State to designate Groundwater Management Zones as a component of groundwater remediation, and the law requires that Groundwater Management Zones be recorded in the registry of deeds.

Public Participation

There are no formal public participation requirements. The State holds information meetings and informally contacts local citizens and government officials about cleanup sites when a neighborhood is or is potentially affected.

Enforcement

Liability

State law provides for strict, joint and several, and retroactive liability. The State is authorized to issue administrative orders, including orders for information, site access, and site cleanup. The State also has subpoena and consent order authorities. New Hampshire may take injunctive action to induce a generator to clean up a site, may impose criminal penalties, and may bring an action to recover costs.

New Hampshire has a first priority lien (superlien) on: (1) real property (other than residential property) where hazardous waste or hazardous material is located; (2) the business revenues generated from the facility on the real property where the hazardous waste or hazardous material is located; and (3) all personal property located at this facility. A lien without priority, effective as of the date and time of recording and filing, can be established against all other property.

Property Transfer

New Hampshire has no property transfer provisions. The State maintains a database of known or listed sites.

Voluntary and Brownfields Programs

New Hampshire law provides general authority for voluntary cleanups. The State has been overseeing voluntary projects since 1981 and considers voluntary cleanups to be an integral part of is program. The risk characterization and management policy was created in 1996, and now essentially all non-NPL hazardous waste cleanups are conducted as voluntary cleanups. The State's Hazardous Waste Cleanup Fund and a federal VCP grant fund the voluntary program.

New Hampshire also enacted legislation creating a brownfields program in July 1996. Any property contaminated with hazardous waste, hazardous materials, or oil is eligible, except sites that are being cleaned up through one of the State's petroleum reimbursement funds and sites that are under an environmental or corrective order (unless participation in the program will bring about compliance). A covenant not to sue, which protects against liability under State law, may be issued to participants other than those who caused or contributed to the contamination. Other incentives to participate include receiving State assistance for the investigation and cleanup planning using an

EPA grant, municipal tax abatements, hazardous waste fee exemptions, lender liability protection, and use of a loan fund. Twenty-one (21) sites have been included in the program and cleanup is underway at 13 brownfields sites. To date nine of the brownfields sites have been redeveloped.

Long-term Stewardship and Institutional Controls

New Hampshire has a long-term stewardship program that covers the State, voluntary, brownfields, and RCRA cleanup programs. One half of a FTE has been designated to work on the program, which includes a site tracking database. The database mainly reports on the monitoring of sites in all of the cleanup programs and is available to the public through normal office procedures.

The State uses various forms of institutional controls including groundwater use restrictions and restrictive covenants. New Hampshire allows these institutional controls to be the sole remedy for a site when applicable. GIS public work stations and the one-stop database are also available to the public as ways of gathering information on current and previous cleanup activities.

RHODE ISLAND

State Sites

Known and Suspected: 1,200
Identified as Needing Attention: 150
On Inventory or Priority List: N/A

Statutory Authorities

The *Hazardous Waste Management Act*, R.I. Gen. Laws §§23-19.1-1 through 23-19.1-33 (1978, as amended, 1979, 1984, 1987), establishes the Environmental Response Fund and authorizes the Department of Environmental Management to clean up abandoned, uncontrolled, and/or inactive sites. The law provides for enforcement; joint and several liability; cost recovery; natural resources damages assessment and recovery; and public participation.

The *Industrial Property Remediation and Reuse Act*, R.I. Gen. Laws §§23-19.14-1 through 23-19.14-19 (1995), provides for voluntary cleanup and brownfields cleanup, as well as the transfer of contaminated property. It also clarifies enforcement authorities and public participation.

Program Organization and Funding

The Department of Environmental Management (DEM), Bureau of Environmental Protection, Office of Waste Management, currently has seven FTE staff working on the cleanup program, and nine FTEs are authorized. One FTE attorney provides in-house legal support. Funding for staff and administration of both State cleanup and voluntary programs comes from the State general fund (90 percent) and federal grants (10 percent).

Cleanup Activities

Rhode Island currently has cleanup activities underway at 76 sites, 18 of which are under the voluntary cleanup program. Cleanup activities were completed at 22 sites in FY00, including three voluntary sites. Since the start of the programs 520 cleanups have been completed in total, including eight voluntary sites. The State does not maintain a specific priority list for site cleanups.

Cleanup Funding

During FY00 approximately $400K from the State's general revenue account was used for personnel expenses and $67K was transferred into the program from the State oil pollution account. An additional $180K was awarded for general program development from a federal CORE/voluntary cleanup grant. Approximately $160K was awarded for targeted brownfields site assessments. At the end of FY00, $30K was remaining from the brownfields pilot grant to complete work currently underway. The only significant source of funding is appropriations, but waste fees and voluntary program user fees are both minor sources of funding.

The fund may be used for site investigation, emergency response, removals, site evaluation, studies and design, remedial action, victim compensation, CERCLA match, temporary water supplies, operations and maintenance, program administration, and resident relocation.

Cleanup Policies and Criteria

Cleanup levels for all programs are determined on a case-by-case basis, using water quality criteria, MCLs/MCLGs, groundwater standards, background levels, EPA guidelines, and generic risk-based soil standards developed by the State. Rhode Island now gives the participant the option of a tiered cleanup system using: (1) default cleanup standards; (2) calculation of specific contaminate cleanup standards depending on site specific data; or (3) a site specific risk assessment. Standards take into account chemical specific health and land use criteria. Risk levels

used for risk assessment are 10^{-6} for carcinogens and a Hazard Index of 1 for non-carcinogens. Where remediation standards are based on land use restrictions, the State requires that environmental land use restrictions be recorded with the title. State regulations include residential and industrial/commercial standards that may be applied to the cleanup. When the latter are used institutional controls may also be required to limit future site use to non-residential. Naturally occurring background data and other standards may also be considered.

Public Participation

State law and regulations require community involvement in the investigation and remediation of all contaminated sites, including notification to nearby residents of proposed site investigations, availability of records, and notice and comment on proposed settlement agreements. DEM policy is to expand public participation opportunities, and DEM has sought to implement this policy through the public notice and comment process, as well as through agency program planning meetings.

Enforcement

Liability

Rhode Island has strict, joint and several liability, and retroactive liability. The State has authority for subpoenas, administrative orders, injunctive action, civil and criminal penalties, cost recovery, and treble damages. Civil penalties of up to $10K per day are available.

Property Transfer

Rhode Island has no property transfer provisions other than requirements for disclosure of known deficient conditions upon transfer of certain residential properties. An inventory of sites is maintained. The State can also apply a lien when State funds are expended.

Voluntary and Brownfields Programs

Rhode Island's voluntary cleanup program began in 1996. Although anyone is eligible, only "bona fide prospective purchasers" (non-PRPs) may obtain a covenant not to sue and protection from contribution actions. The program is primarily funded through State general revenues and there is a $1K fee for the approval of remedial action workplans.

The brownfields program targets any abandoned or underutilized site where contamination impedes development. Participating sites may receive liability protection. The *Industrial Property Remediation and Reuse Act* also authorizes the State Economic Development Corporation to use funds from the State's tire site remediation account for loans to facilitate remediation of sites of "critical economic concern." Such funds, however, have not been available since the law's enactment in 1995. There are 72 sites in the State's brownfields program, 60 of which have already been redeveloped and 12 have commitments for redevelopment.

Long-term Stewardship and Institutional Controls

Rhode Island has a long-term stewardship program for State, voluntary, and brownfields cleanups that includes monitoring and enforcement, implementation of institutional controls, and regular reviews. The State maintains a database for these purposes that is available to the public upon request. All of the program's seven staff members carry out the program, equaling approximately 0.1 FTE. Rhode Island uses deed and ground water use restrictions as institutional controls, which are reviewed on an annual basis.

VERMONT

State Sites

Known and Suspected:	390
Identified as Needing Attention:	250
On Inventory or Priority List:	250

Statutory Authorities

The *Water Pollution Control Law*, Vt. Stat. Ann., Title 10, §§1282-1283, establishes the Environmental Contingency Fund for emergency responses, studies and design, and remedial actions.

The *Waste Management Act*, Vt. Stat. Ann., Title 10, §§6601-6618 (1977, as amended 1981, 1985, 1987, 1995 and 1996), establishes the State's hazardous waste program and authorizes the Department of Environmental Conservation to take removal and remedial actions to clean up sites contaminated by the release of hazardous materials. The law provides for strict, joint and several liability for responsible parties, and for cost recovery. The law was amended in 1995 to establish a brownfields cleanup program (Vt. Stat. Ann, Title 10, §6615a).

An Act Relating to Administrative Enforcement of Specified Environmental Laws (Act 98), Vt. Stat. Ann., Title 10, §§8001-8221 (1989), provides additional enforcement authorities.

Program Organization and Funding

The Department of Environmental Conservation (DEC), Waste Management Division, Sites Management Section has 16 FTE staff members total, five of whom do not work on petroleum or RCRA sites. The section handles all hazardous sites work including CERCLA, RCRA corrective action, pre-remedial, and State list work. Two attorneys in the Attorney General's office, two attorneys in DEC's Enforcement Division, and one Program Attorney work on hazardous waste cases, for a total of 1.5 FTE. Staff and administrative costs come from federal grants (90 percent) and the State general fund (10 percent).

Cleanup Activities

Cleanup activities have been completed at 139 non-NPL sites since the start of the State program, nine of these during 2000. Cleanups are currently underway at approximately 12 sites. All of these cleanups are considered to be voluntary, although the State does not have a formal VCP. Outside of the brownfields program, the State does not track the exact number of non-NPL sites at which cleanup activities are currently underway.

Cleanup Funding

The Environmental Contingency Fund (ECF) had a balance of $296K at the end of FY00, $250K of which was obligated or encumbered. Additions amounting to $392K were made to the fund during the fiscal year. A total of $442K was expended at non-NPL sites from the ECF. No monies were obligated or encumbered during FY00. A hazardous waste generator tax constitutes the major source of revenue for the fund, with minor revenue from penalties, cost recoveries and user fees. The ECF may be used for site investigation, studies and design, removals, remedial actions, operations and maintenance, grants to local government, and program administration.

The Petroleum Cleanup Fund (PCF) had an unencumbered balance of $1.4M at the end of the 2000 calendar year, and the State had obligated another $1.8M for non-NPL sites. During 2000, Vermont spent $6.8M from the PCF on non-NPL sites. Additions to the fund totaled $5M in 2000. The PCF is generated by an annual tank assessment fee required to be paid by UST owners and by a one cent per gallon fuel license fee charged to distributors of gas or diesel fuel. It also receives funding from cost recoveries and penalties. The PCF may be used for site investigation, studies and design, remedial actions, victim compensation, operations and maintenance, and program administration.

Cleanup Policies and Funding

Cleanup standards are determined on a case-by-case basis. The State uses water quality criteria (based on the State groundwater statute), MCLs/MCLGs, and EPA guidelines (*e.g.,* soil cleanup standards) in conjunction with risk assessments. The State uses a risk level of 10^{-6} for excess cancer cases and a Hazard Index of 1 for non-carcinogens. The State considers assumptions about future land use in establishing cleanup standards and a tiered approach can be used to evaluate less conservative standards. Zoning restrictions are used to support land use assumptions, which must be included in the Corrective Action Plan and is subject to public comment. The State may also require deed restrictions in individual cases.

Public Participation

As a policy, DEC meets with town officials and holds public meetings. The *Waste Management Act* requires that municipalities be notified of sites within their borders; site designation must be entered on the town's land record. The State brownfields law requires public notice of a proposed corrective action plan and a minimum 15-day public comment period.

Enforcement

Liability

DEC is required to give a "discharging party" an opportunity to clean up. DEC sends out letters, to be followed by an administrative order in the event of noncompliance. Ninety-five (95) percent of sites are voluntarily cleaned by RPs. The State has strict, proportional, retroactive, and joint and several liability, and treble damages provisions. Liability apportionment is available if an RP can prove apportionment. DEC has authority to request information, subpoena documents, issue administrative orders, issue consent orders, and issue orders for entry. Civil penalties are $50K per violation in addition to $25K per day for continuing violations. Penalties and fines go to the State general fund; recovered costs go into the ECF.

Property Transfer

Vermont does not have any property transfer provisions. The State can apply a lien when State funds are expended.

Voluntary and Brownfields Programs

Vermont does not have a formal voluntary cleanup program, although the State does encourage and support voluntary cleanups.

The State does have a brownfields program (established by Vt. Stat. Ann., Title 10, §6615a), which commenced in January 1996 and was amended in 1998 to include innocent current owners and prospective purchasers. Properties that are abandoned or substantially underutilized, and where development is proposed by independent parties are covered by this program. NPL sites are excluded, as are sites subject to RCRA corrective action requirements and sites regulated under the LUST program. Thus far, seven sites have been identified for participation in the program. Cleanup is underway at three of the sites. The State has issued one Certificate of Completion, and subsequently that site has been redeveloped. Five other sites also have commitments for reuse or redevelopment. In 1998 the State instituted a pilot program for the first five projects. Under this program there is a limit to the secretary's ability to amend corrective action plans and a 30 percent limit to the possible cost increase for those original plans. In general, the brownfields program offers limited liability protection under the Hazardous Waste Management Act for redevelopers and successors. Additionally, the State conducts some brownfields site assessments using HUD grant funds and provides technical assistance to brownfields pilot project recipients.

Long-term Stewardship and Institutional Controls

Vermont has a long-term stewardship program that is currently in development. It covers State, brownfields and RCRA cleanup programs through a system of monitoring and institutional controls. Presently there is no staff specifically designated for the project. The State maintains a database to track the implementation, monitoring, and public notices for State and brownfields cleanups, as well as institutional controls in place at federal facility sites. This database is used mainly for internal purposes, but is also available and used by the public via the Internet.

The State has used ground water use restrictions, notices placed with deeds, and a site registry in the past year as institutional controls. There are no direct reviews of sites where institutional controls have been established, but the results of indirect audits are always made available to the public.

REGION 2

New Jersey
New York
Puerto Rico

NEW JERSEY

State Sites

Known and Suspected: 5,000*
Identified as Needing Attention: 3,900*
On Inventory or Priority List: 1,838
*Derived estimates (see Cleanup Activities)

Statutory Authorities

The *Spill Compensation and Control Act*, N.J.S.A. §§58:10-23.11 separately *et seq*., (enacted 1976, and amended almost annually thereafter), establishes a fund for cleanups and provides authority for emergency response, removals, remedial actions, enforcement, cost recovery, a priority list, natural resources damages, and voluntary cleanup.

The *Industrial Site/Recovery Act* (ISRA) (1993), N.J.S.A. §§13:1K-6 *et seq.,* requires transferors of industrial facilities to clean up contamination.

The *Brownfield and Contaminated Site Remediation Act*, N.J.S.A. 58:10B, provides the basis for the remediation of contaminated sites and a brownfields program; it also amended site remediation standards to reflect land use restrictions. It also provides authority for the State's long-term stewardship program.

The *Environmental Rights Act,* N.J.S.A. 2A:35A establishes a basis for filing citizen suits.

The *Water Pollution Control Act* (WPCA), N.J.S.A. 10A-1 *et seq.,* establishes the basis for the remediation of contaminated sites which impact the waters of the State.

Program Organization and Funding

The Site Remediation Program in the Department of Environmental Protection (DEP) has 537 staff members. The Attorney General's Office (Department of Law and Public Safety, Division of Law, Hazardous Site Litigation Section) provides 18 attorneys for legal support of the program. Funding for staff and administration comes from the State cleanup funds (55 percent), direct billing and cost recovery (40 percent), and federal CORE and cooperative agreements (5 percent). The voluntary cleanup and brownfields programs are funded in the same manner.

Cleanup Activities

Because New Jersey includes homeowner tank cleanups and other petroleum cleanups in its voluntary cleanup program, the numbers of sites included in this narrative are derived from the total and an estimate that 60 to 70 percent of the sites that are cleaned through the voluntary cleanup program are minor petroleum cleanups. The numbers in this year's summary cannot be compared to those of 1998 due to changes in definition and reporting.

At non-NPL sites, cleanup activities are currently underway at approximately 3,900 hazardous substance sites; and 2,333 cases received no further action designation in FY00. Since the beginning of the program, 11,000 sites have received no further action designation.

Of the total hazardous substance site cleanups, the voluntary cleanup program accounts for approximately 1,400 sites that are currently being cleaned up, 700 were completed during the last fiscal year, and 3,500 were completed since the program's inception in 1992.

Cleanup Funding

New Jersey's Spill Compensation Fund is generated primarily by dedicated taxes. Minor sources of funding include cost recovery and interest. The fund had a balance of $19.4M at the end of FY00. In FY00, $2.3M were paid out and $18.2M were obligated or encumbered. This fund may be used for all categories of cleanup activities at non-NPL sites except for grants to local governments. It is also used for CERCLA match, and operations and maintenance at NPL sites.

The Hazardous Discharge Site Cleanup Fund, consisting primarily of cost recoveries and user fees, had a balance of $53.5M at the end of the fiscal year. During FY00, the total monies paid out were $2.8M, and $3.1M were obligated or encumbered. The fund may be used for site investigation, CERCLA match, studies and design, operation and maintenance, removals, remedial actions, program administration, natural resource restoration, and long-term stewardship.

A portion of a Corporate Business Tax authorized by referendum in November 1996 supports publicly funded cleanups. This account had a balance of $37.1M at the end of FY00. In FY00 expenditures were $7.5M, and obligated or encumbered were $34.2M. Additions were $21.3M. The account may be used for site investigation, CERCLA match, studies and design, operation and maintenance, removals, remedial actions, program administration, natural resource restoration, and long-term stewardship. [Corporate Business Tax funds used for administration are tracked separately and amounted to $5.8M in FY00.]

The 1981 Discharge Bond Fund had a balance of $5.7M at the end of FY00, and the total monies obligated or encumbered at the end of the fiscal year were $29M. Total expenditures in FY00 were $1.4M. The fund may be used for site investigation, CERCLA match, studies and design, operation and maintenance, removals, remedial actions, natural resource restoration, and long-term stewardship

The 1986 Hazardous Discharge Bond Fund had a balance of $8.5M at the end of the FY00 and encumbrances of $38M. Total monies paid out during the fiscal year were $10.9M. It is authorized for all cleanup categories except victim compensation, emergency response, grants to local government, and program administration.

The 1996 Hazardous Discharge Bond Fund had a balance of $65M at the end of the fiscal year. $5M were obligated or encumbered. It is authorized for all cleanup categories except victim compensation, emergency response, grants to local government, and program administration.

The Hazardous Discharge Capital Fund's balance was only $58 at the end of FY00. The fund paid $94K and had $188K obligated or encumbered at the end of the fiscal year. The significant source of monies for this fund is appropriations. It may be used for all cleanup categories except victim compensation, emergency response, grants to local government, and program administration.

Cleanup Policies and Criteria

The State has statutory cleanup provisions with risk-based goals, and also uses water quality criteria, MCLs and MCLGs, background levels, and risk assessment. Soil cleanup criteria are used and will be included in a planned rulemaking. New Jersey uses a look-up table to determine chemical-specific health-based standards. The risk level set by the statute is 10^{-6} for carcinogens, and a Hazard Index of 1 for noncarcinogens. New Jersey has residential, nonresidential, and impact to groundwater soil criteria. The State continues to approve, on a site-specific basis, remedial measures that incorporate engineering and institutional controls allowing soil contamination to be left in place at certain levels (not above impact to groundwater) if such controls prevent exposure to the public and are maintained properly. Such locations require a Deed Notice and biennial certification reports documenting that the remedial action remains protective of public health and safety of the environment.

The same standards are used for voluntary program cleanups.

Public Participation

A State regulation provides for public notice of cleanup actions at all sites. State regulation provides for public comment and hearings and meetings at State cleanup sites. At voluntary cleanup sites, public comment and hearings and meetings are on an ad hoc basis.

Enforcement

Liability

Liability is strict, joint and several, and retroactive. Civil penalties are authorized up to $50K per day per violation; treble damages may be assessed through the courts.

Property Transfer

New Jersey's *Environmental Cleanup Responsibility Act*, enacted in 1983, was the pioneering property transfer law. It required site assessment, disclosure, and cleanup of industrial sites upon transfer. The law was amended in 1993 and renamed the *Industrial Site Recovery Act* (ISRA). Investigation, cleanup, and disclosure are still required. Sites are remediated according to property use standards. Other cleanup sites must record a deed notice if sites are not cleaned up to unrestricted use standards.

New Jersey's Spill Act gives the State a priority (super)lien for its cleanup costs. The State maintains a database of sites.

Voluntary and Brownfields Programs

The State's voluntary cleanup program was established in 1992 as a subset of site remediation cases. It is fully integrated into its other programs. Participation is open to all parties with the exception of sites that are regulated by other cleanup laws, such as New Jersey's Industrial Site Recovery Act or State and federal UST laws. In addition, responsible parties for sites scheduled for publicly funded cleanups and parties that are required to sign Administrative Consent Orders with the State are ineligible for the voluntary program. (Some of these sites may be considered brownfields sites.) DEP will provide a no further action letter, and a covenant not to sue for non-responsible parties upon completion of successful voluntary cleanup. The State also has a loan and grant program that has provided more than $70M for various projects where private and public parties are conducting work under a memorandum of agreement. The program is funded by direct billing for staff time; the State may bill salary and fringe, but not indirect costs.

The State also operates a brownfields program based on statute. It includes abandoned and underutilized sites that are suspected to contain hazardous substances. Cleanup standards for brownfield sites are identical to those for other sites, and may include deed notices. The Department of Environmental Protection has issued no further action designations for remedial activities at 393 brownfields sites. Residential, commercial, industrial, and recreational redevelopment projects have been completed at many of these sites. The State's Brownfields Redevelopment Task Force is working to track reuse data about these brownfields redevelopment projects, including the local property tax impacts. To date, 1,376 sites have been identified for the brownfields program. Since 1994, loans and grants from the Hazardous Discharge Site Remediation Fund have been available to voluntary cleanup and brownfields projects. More recently, the State has entered into Redevelopment Agreements with developers to provide up to a 75 percent reimbursement of remedial costs. This program allows the State to use projected tax revenue from future operations at a redeveloped site to pay for a portion of remedial costs. Nearly 100 developers have applied for Redevelopment Agreements.

Long-term Stewardship and Institutional Controls

New Jersey has a long-term stewardship program for its State, voluntary cleanup, brownfields, and RCRA sites. Various case managers are responsible for deed notices at sites with active cases and remedial work underway, and for sites with Classification Exception Areas (delineated locations where groundwater contamination remains above cleanup criteria), whether the case is open or closed. One staff person spends half time on sites with deed notices where cases are closed with no active remedial work. Funding for LTS programs is not separated from other cleanup expenditures. New Jersey maintains a tracking system that records the use of institutional controls at sites. This information is made available to the public through the Known Contaminated Sites in New Jersey Report for 2001, which is available online. A person conducting maintenance of a remedial action with any engineering and/or institutional controls at a site with a deed notice, is required to certify to the department, on a biennial basis, that the remedial action remains protective of public health and safety and of the environment. Groundwater use areas must also be monitored and certified to the department on a biennial basis if they are designated as a groundwater Classification Exception Area. The results of these reviews are available to the public through a request for a file review. Multiple ICs may be used at a site when both soil and groundwater contamination will remain at a site above cleanup standards, or when multiple groundwater plumes are present with different contaminants. The same LTS program is used for voluntary cleanup, brownfields, and RCRA sites.

NEW YORK

State Sites

Known and Suspected:	1,628
Identified as Needing Attention:	851
On Inventory or Priority List:	945

Statutory Authorities

The *Environmental Conservation Law*, Articles 17, 19, 27, 56, 71, provides general, comprehensive enforcement and cleanup authority. It also establishes a cleanup fund and provides for voluntary and brownfields cleanup and contaminated property transfer notice. Part of the *Environmental Conservation Law,* Article 56, Title 5 (1997), sets forth a brownfields program, the environmental restoration project State assistance program.

Article 27, Title 13, is the *Abandoned Sites Act (1979, Chapter 282),* which mandates statewide inventory and registry of hazardous waste sites, provides order and cleanup authority, and authorizes the State to provide alternative water supplies. It includes authority under which the State established a voluntary cleanup program.

The *State Superfund Act* (1982, Chapter 857; 1985, Chapter 38), establishes the Hazardous Waste Remedial Fund for cleanup of sites and State CERCLA match, and a State capital account for cleanups.

The *Environmental Quality Bond Act of 1986* (EQBA) (Ch. 511, Laws of 1986), authorized $1.2B in bonds to address inactive hazardous waste sites, $100M of which was later redirected for use in cleaning up non-hazardous waste landfills.

Program Organization and Funding

The Department of Environmental Conservation (DEC) has approximately 321 of 347 authorized FTE staff members working on State and federal Superfund activities. Most of the personnel work in the Division of Hazardous Waste Remediation. Legal support is provided by 19 attorneys in the Division of Environmental Enforcement and three attorneys in the New York Attorney General's Office.

Approximately 88 percent of funds for staff and administration for the State-funded sites are from the cleanup fund, 11percent are from federal grants, and 1percent is from the State general fund. The voluntary program is funded through the State cleanup fund (81percent) and federal CORE/cooperative agreements (19 percent).

Cleanup Activities

The State tracks registry sites based on a classification system. Sites are listed if they have a confirmed disposal of a hazardous waste (not substance), and if they present a significant threat to public health or the environment.

In SFY 2000/2001 cleanup actions were underway at 321 non-NPL sites, 65 of which are being handled through the voluntary cleanup program. Actions have been completed at approximately 423 non-NPL sites, including 19 during SFY 2000/2001. Fifty of these sites were cleaned through the voluntary program, and four were completed in the last fiscal year..

Cleanup Funding

In 1989, the State began selling EQBA bonds. $23.1M remains in the fund. During SFY 2001/2001, $57M were expended and $40M were obligated. The bond money may be used for site investigation, studies and design, removals, emergency response, remedial actions, CERCLA match, operations and maintenance, grants to local government, and program administration.

The Hazardous Waste Remedial Fund had a balance of $9.5M. During FY00, $53.7M were added to the fund and $58.7M were paid out. The bulk of this funding comes from waste end taxes. The fund is used for debt service of 1986 EQBA bonds. A small portion of the money is used for program administration.

In 1996, the Clean Water/Clean Air Bond Act authorized sale of $200M in bonds, a portion of which supports brownfields ("environmental restoration projects"). This bond authorization has obligated $17M, including $2.8M obligated in SFY 2000/01. $6.4M were expended in that year.

The DEC also was appropriated capital funds with a balance of $1.7M used for studies and design, removals, and remediation. Encumbrances were $4.3M. $1M were added to this fund and $17.8K were expended during the fiscal year.

Potentially responsible parties provide a substantial amount of cleanup funding. The State reports a total of 900 consent orders to date, valued at approximately $2.0B in cleanup commitments.

Cleanup Policies and Criteria

Cleanup levels are established considering risk and exposure assessments, water quality criteria, background levels, groundwater standards, and land use considerations. The process starts with soil cleanup objectives based on unrestricted use and then uses the feasibility study to determine final soil cleanup levels. When the cleanup of a site to the predisposal condition is not possible or feasible, DEC specifies generic soil cleanup levels that, if attained, would eliminate all significant threats. The risk goal is set at 10^{-6}. For noncarcinogens, Hazard Index equals 1. Deed restrictions are used to control future land use where cleanup is not to residential standards.

Public Participation

Statutes and regulations require the DEC to develop a citizen participation program at the start of RI/FS that includes a site-specific citizen participation plan, establishment of a local document repository, creation of a public contact list, and a mailing of a description of the proposed RI/FS field work. When the Proposed Remedial Action Plan (PRAP) is prepared, a description of the PRAP is sent to the people on the contact list inviting comments. The Department conducts a 30-day comment period, and will hold a public meeting to describe the PRAP and solicit public comments. The Department summarizes and responds to comments received during the comment period when the Record of Decision is signed. The Department also conducts citizen participation activities when it implements interim remedial measures.

In addition, when the Department adds a site to its Registry of Inactive Hazardous Waste Sites, or reclassifies a site within the Registry, it must mail a notification to adjacent property owners and to town and county clerks. The Department must also publish a notice of a proposal to delete a site from the Registry, conduct a 30-day comment period, notify adjacent property owners by mail, and summarize public comments.

The voluntary cleanup program incorporates public notice and comment as a matter of policy rather than legal requirement. The Environmental Restoration Program (brownfields) incorporates citizen participation requirements within the statute and regulations.

Enforcement

Liability

State regulations defining responsible party result in strict and joint and several liability. The statute makes common law defenses available. Liability is retroactive. Legal authorities include orders for information and site access, subpoena authority, administrative order authority, consent order, and injunctive action authority. Civil penalties are $25K per violation in addition to $25K per day for continuing violations. Criminal penalties of up to $25K per day and/or one year imprisonment are available. Penalties double for a record violation. Cost recovery is also authorized.

Property Transfer

New York is required to maintain a priority list of sites. Inactive hazardous substance sites must be recorded with the recorder of deeds. The State may apply a lien when State funds are expended. A cleanup agreement before transfer is required in the brownfields program.

Voluntary and Brownfields Programs

The State maintains a separate voluntary cleanup program, established in December 1994 by Organization and Delegation Memorandum 94-32. Site owners, prospective purchasers, municipalities, and (under some circumstances) operators may participate. Participation by class 2 inactive hazardous waste sites and NPL sites is not allowed. Cleanup levels are based on the intended use of the site; a release from liability is issued after the cleanup levels are reached. State oversight costs are paid by the volunteer.

The passage of the Clean Water/Clean Air Bond Act of 1996 established a $200M environmental restoration project fund. Known as the Brownfields Program, the fund provides grants to municipalities for the investigation and/or remediation of municipally owned contaminated properties. These properties may then be marketed for redevelopment by the municipality or used by the municipality for a variety of activities including industrial, commercial, or public use. In December 1997, the Department issued its final Administrative and Technical Guidance Memorandum (TAGM) titled, "Environmental Restoration Projects." This document is for use by municipalities in applying for State assistance brownfield grants.

The State provides financial assistance to municipalities to carry out the Brownfields Program. The State funding provides 75 percent of investigation and cleanup costs. One hundred and seven (107) brownfields applications have been approved for funding under the Clean Water/Clean Air Bond Act at 95 sites. A total of $100M has been made available for brownfields projects through SFY 2000/01. Of that amount, approximately $21.4M has been committed for approved projects.

Long-term Stewardship and Institutional Controls

New York has a long-term stewardship program for its State, voluntary, brownfields, and RCRA program sites. Seventeen employees have LTS as part of their responsibilities. A tracking system is currently under development. It is anticipated that DEC employees will be primary users of the system, and that the public will be the secondary users. New York's LTS program is under development, but the DEC has the goal of reviewing sites where institutional controls have been implemented on an annual basis. The results are made available to the public only upon request.

PUERTO RICO

Puerto Rico did not provide any information for this study.

State Sites

Known and Suspected:
Identified as Needing Attention:
On Inventory or Priority List:

Statutory Authorities

The *Environmental Emergencies Fund Act*, Law 81, 12 L.P.R. Ann. §§1271 *et seq.* (1987), establishes the Environmental Emergencies Fund and authorizes the Environmental Quality Board to respond to emergencies and recover response costs from liable parties. The Act has no order or injunctive authorities; Puerto Rico relies on other authorities for these purposes, including the *Public Policy Environmental Act*, Law 9, 12 L.P.R. Ann., §§1121 *et seq.* (1970, as amended 1973, 1974, 1978, 1983, 1984, 1985, 1993, and 1997).

Program Organization and Funding

No information was provided on this subject.

Cleanup Activities

No information was provided on this subject.

Cleanup Funding

According to Law 81, the Environmental Emergencies Fund may be used for emergency response, CERCLA match, and program administration. No information was provided on fund balances and expenditures.

Cleanup Policies and Criteria

No information was provided on this subject.

Public Participation

No information was provided on this subject.

Enforcement

Liability

Liability is strict and retroactive. Civil penalties are authorized up to $25K per day per violation; punitive damages are not available.

Natural Resource Damages

Law 9, Section 16(b) authorizes recovery for NRDs. Law 81, Article 6, authorizes recovery of any costs incurred in addressing environmental emergencies.

Property Transfer

There are no property transfer provisions.

Voluntary and Brownfields Programs

In 2000, Puerto Rico began the Property Redevelopment and Voluntary Cleanup Program. Incentives for participation in the program include liability relief for prospective purchasers and lenders through letters, certificates and/or agreements.

Long-term Stewardship and Institutional Controls

No information was provided on this subject.

REGION 3

Delaware
District of Columbia
Maryland
Pennsylvania
Virginia
West Virginia

DELAWARE

State Sites

Known and Suspected:	532
Identified as Needing Attention:	331
On Inventory or Priority List:	439

Statutory Authorities

The *Hazardous Substance Cleanup Act*, DCA, Title 7, §§9101-9120 (1990, as amended 1995 and 2001), establishes the Hazardous Substance Cleanup Fund and authorizes the Department of Natural Resources and Environmental Control (DNREC) to clean up sites contaminated by hazardous substances. The law provides for: strict, joint, and several liability; cost recovery; public participation; natural resource damage assessment and recovery; property transfer provisions; water replacement; a priority list; a brownfields program; and a voluntary cleanup program.

The *Delaware Regulations Governing Hazardous Substance Cleanup* (1993, revised 1995 and 1996), prohibit site cleanup at a property contemplated for transfer, or any other site, without the State's approval or oversight.

Program Organization and Funding

The DNREC, Division of Air and Waste Management, Site Investigation and Restoration Branch has 29 FTE staff, with 31 FTE staff authorized. Legal support is provided by the Department of Justice (Attorney General's office) with one attorney assigned to both State and CERCLA work.

Cost reimbursement has become a major source of staff and administrative funds for the program, accounting for about 60 percent of the total. The remaining funds come from the State cleanup fund (39 percent) and the State general fund (1percent). Cost reimbursement and fees account for 100 percent of the voluntary cleanup program staff and administration funds.

Cleanup Activities

The 439 non-NPL sites on the State's priority list were selected based on factors including risk to human health and the environment, as well as potential for redevelopment. Cleanup activities are currently underway at approximately 103 non-NPL sites, with 61 of those sites involving voluntary remediation. Since the start of the State cleanup program, cleanup activities have been completed at 108 non-NPL sites, 61 of which involved voluntary cleanups. Cleanup activities were completed at a total of 28 non-NPL sites during FY00, 18 of which involved voluntary cleanups.

Cleanup Funding

The Hazardous Substance Cleanup Fund (HSCF) had a balance of $13M at the end of FY00. Additions to the fund totaled $3.5M in FY00, and expenditures for activities at non-NPL sites totaled $3.5M.

The HSCF receives petroleum product tax receipts as a main source of funds, with minor additions from appropriations, cost recovery, and interest. User fees constitute another minor source of funds for the voluntary cleanup program. The HSCF is available for program administration, site investigation, studies and design, removals, remedial actions, emergency response, natural resource restoration, long-term stewardship, loans, CERCLA match, and operations and maintenance.

Cleanup Policies and Criteria

The State's cleanup regulations specify that cleanup levels will be determined using a risk-based approach on a site-specific basis. The same standards used in the State cleanup program are also used in the voluntary cleanup program.

For groundwater cleanup levels, MCLs may be used if DNREC determines they will protect human health and the environment. Otherwise, when the natural background level exceeds the 10^{-5} cancer risk level or a Hazard Index of 1, the natural background level is the cleanup level. When the background level is less than the 10^{-5} cancer risk level, then the 10^{-5} risk level or a level corresponding to the Hazard Index value of 1 is used as the cleanup level. If the PRP cannot perform risk assessment, the State allows the use of risk-based concentration values that comply with the risk-based approach. The State finalized guidance in 1998 that establishes such risk-based concentration values. The same rule applies to soil cleanup levels. Surface water cleanup levels must meet the State's water quality standards. For screening purposes, a 10^{-6} risk level for carcinogens and a Hazard Index of 0.1 are used.

The State's regulations provide that cleanup levels may be based on current and potential use conditions. For sites cleaned up to standards based on specific land use, deed restrictions and groundwater management zones are used to maintain the future land-use restrictions.

Public Participation

The *Hazardous Substance Cleanup Act* provides for public notice and opportunity for public comment on proposed consent decrees; settlement revisions; proposed and final remedial action plans; public hearings and meetings; and document availability. The same provisions apply to the voluntary cleanup program.

Enforcement

Liability

The *Hazardous Substance Cleanup Act* establishes strict, retroactive, and joint and several liability, as well as cost recovery. DNREC must attempt a settlement prior to initiating an action unless an emergency exists. The State has injunctive action and administrative order authority. Civil penalties of up to $10K per day per violation are available. The State may recover punitive damages treble the State's cleanup costs.

Property Transfer

The *Hazardous Substance Cleanup Act* (§9115) requires the property owner to place a notice of a release of a hazardous substance, determined by the Secretary to be a threat to public health or the environment, with the recorder of deeds. The owner must also file with the recorder of deeds a copy of the Certificate of Remedy. The Secretary is required to maintain a remedial decision record, which contains the final plan of remedial action and the basis for it, for a period deemed appropriate based on the remedy implemented and future use of the property. The State must also maintain a database of known or listed contaminated sites.

Delaware's residential property disclosure law contains requirements for disclosing known material defects (including the presence of toxic substances) prior to transfer of certain residential properties.

The State can apply a lien or superlien when State funds are expended.

Voluntary and Brownfields Programs

The State voluntary cleanup program went through the regulatory adoption process in 1993 and guidance and regulations were finalized in 1994.

The 1995 amendments to the *Hazardous Substance Cleanup Act* included provisions for a voluntary cleanup program. Anyone may participate, including owners, prospective buyers, and developers but cleanups must comply with the Delaware Regulations Governing Hazardous Substance Cleanup. All sites are eligible except sites under actions or RCRA corrective actions and sites that pose an imminent threat to public health or the environment. Additionally, the site must be financially viable.

Participants receive a certificate of completion, and prospective purchasers receive a release from liability. To fund the State's oversight, participants are required to remit an initial deposit up to a maximum of $5K. Additional deposits will be requested based on the oversight cost estimate as the site cleanup progresses. Any deposit funds not expended by the State are returned to the participant.

The State brownfields program is part of the voluntary cleanup program with added provisions for bringing business and employment to the site after the completion of a cleanup. Brownfields are defined as any vacant, abandoned or underutilized real property, whose development may be hindered by the reasonable belief that the property may be contaminated. Cleanup standards for brownfields sites are the same as the voluntary cleanup program's. Participants receive tax credits based on the size of investment and number of new employees brought to the site. Grants of up to the lesser of $50K or 50 percent of environmental assessment and remediation costs are available for site investigation and cleanup. In addition, low interest loans of up to $250K are also available for brownfields sites. Brownfields sites receive federal funds to do site assessments and $500K has been committed to the LUST Brownfields Program. About 89 sites have been identified for inclusion in the program, with cleanup underway at 20. Ten (10) sites have been redeveloped and an additional 10 sites have a commitment for reuse or redevelopment.

Long-term Stewardship and Institutional Controls

Delaware has a long-term stewardship program for its State cleanup program, voluntary cleanup program, brownfields program, and RCRA program. Elements of the long-term stewardship program include monitoring, institutional controls, review, and reevaluation. The State also hopes to begin using the Miss Utility Law to track sites using institutional controls as soon as the process of inputting sites into the Miss Utility system is complete. If a party wishes to disturb property listed in the Miss Utility system, the party will contact Miss Utility, which will in turn inform the party that it needs to contact DNREC and will fax DNREC to inform them of the party's actions. The State will then be responsible for getting back to the requesting party within 48 hours. The use of the Miss Utility system should be in place by September 2001.

Two staff members have as part of their work assignment the responsibility for carrying out the long-term stewardship program and $20K has been designated for the program.

The State is in the process of developing a system to track the implementation of institutional controls into the future. The system, which should be completed in calendar year 2001, will track State cleanup sites, voluntary cleanup sites, and Brownfields sites, but will not track RCRA sites or federal facilities. The State plans to review institutional controls annually once the system is implemented. Results of the reviews will be made public via the department web page as part of the Organization and Management program annual inspection data. The State Superfund Program and Underground Storage Tank Program are expected to be primary users of the database and utility company developers should be secondary users.

Multiple institutional controls are now being used at over 20 sites. Site conditions such as the amount and type of pollution, what the current and future land use are, and what engineering controls exist, dictate the criteria for layered institutional controls.

DISTRICT OF COLUMBIA

State Sites

Known and Suspected: N/A
Identified as Needing Attention: N/A
Inventory or Priority List: N/A

Statutory Authorities

The *Brownfields Revitalization Amendment Act of 2000*, D.C. Code § 101 *et seq.*, authorizes a mandatory cleanup program, a voluntary cleanup program, a brownfields program, and provides for long-term stewardship of sites that have been cleaned up under these programs. The regulations to implement these programs have been drafted but are not yet finalized.

The *Hazardous Waste Management Act of 1978*, D.C. Code §§6-701 *et seq.*, (as amended in 1984, 1989, and 1991), establishes the District's hazardous waste management program. The law authorizes the mayor to revoke or suspend a permit and, if a responsible party fails to comply with an administrative order, directs the mayor to take corrective action necessary to alleviate or terminate a violation of the law, a threat to health or the environment, or a release of hazardous waste. The law also authorizes the mayor to recover costs of the corrective action from the responsible person and provides for injunctions and civil and criminal penalties.

Program Organization and Funding

The District's hazardous waste management program is housed in the Department of Health, Bureau of Hazardous Materials and Toxic Substances, Clean Lands Program. The Corporation Counsel provides legal support as needed.

Cleanup Activities

The District does not currently track the number of non-NPL contaminated sites within its jurisdiction.

Cleanup Funding

The District does not have a fund for hazardous waste cleanup.

The Clean Land Fund provides for the administration, improvement, and maintenance of the brownfield and voluntary cleanup programs, loans and grants made for contaminated property cleanup assistance, and any other brownfield revitalization incentives. Significant sources of the Clean Land Fund include funds from appropriations, income from operations, and fees.

Cleanup Policies and Criteria

The District is developing hazardous substance cleanup standards. The District's Environmental Health Administration (EHA) must publish cleanup standards for contaminated properties under the voluntary cleanup program that include groundwater, surface water, and soil standards. Until these cleanup standards are published, the voluntary cleanup program will use the Safe Drinking Water Act groundwater standards, prior EHA standards, and the District's LUST program standards.

Public Participation

The *Brownfield Revitalization Amendment Act of 2000* provides for public notice and public comment on issuance of a Certificate of Completion under the voluntary cleanup program. The law also authorizes the EHA to

develop public involvement plans for response actions, including hearings under both the District program and the District voluntary program.

Enforcement

Liability

The *Brownfield Revitalization Amendment Act of 2000* authorizes a civil penalty of up to $50K and strict and joint and several liability. It does not authorize punitive damages or retroactive liability.

Under the *Hazardous Waste Management Act*, the District has civil penalty authority of up to $25K per day per violation, but no punitive damage authority and no specified liability standards.

Property Transfer

The District does not have a property transfer provision, but it does require written notice and posting of a notice on property where a release occurs and the responsible party is not known.

Voluntary and Brownfields Programs

The *Brownfield Revitalization Amendment Act of 2000* establishes a voluntary cleanup program and a brownfields program in the District. For the voluntary cleanup program, non-responsible parties are eligible to participate. Brownfields or any contaminated property not on the NPL and not subject to current cleanup actions by the EPA or EHA are eligible as sites for the program. Participants receive credits to offset real property taxes and business franchise taxes. The District's participation is funded through a $10K application fee.

The brownfields program covers abandoned, idled property or industrial property where expansion or redevelopment is complicated by actual or perceived environmental contamination. Participants receive grants, loans, and tax credits to offset real property taxes and business franchise taxes.

Long-term Stewardship and Institutional Controls

The *Brownfield Revitalization Amendment Act of 2000* authorizes the EHA to create, maintain, and disseminate records, informational systems, and educational materials that are necessary to protect public health and the environment at contaminated properties cleaned up under the Act. EHA may also issue instruments for cleaned up properties and properties adversely affected by residual hazardous substances from the cleaned up properties, which will include a notice of residual risk, residual risk restrictions, hazardous substance easements, and orders that run with the land.

MARYLAND

State Sites

Known and Suspected:	440
Identified as Needing Attention:	33
On Inventory or Priority List:	15

Statutory Authorities

The Annotated Code of Maryland, Environment Article, Title 7—Hazardous Material and Hazardous Substances, Subtitle 2—Controlled Hazardous Substances, §§ 7-201 – 7-268 (1982, as amended 1984, 1985, 1986, 1987, 1989, 1991, 1992, and 1993), establishes the Hazardous Substance Control Fund and authorizes the Department of the Environment to clean up sites contaminated by hazardous substances. The law provides for enforcement, strict liability, cost recovery, and public participation.

The Annotated Code of Maryland, Environment Article, Title 7—Hazardous Material and Hazardous Substances, Subtitle 5—Voluntary Cleanup Program, §§ 7-501– 7-516 (1997), establishes the State's voluntary cleanup program.

The Annotated Code of Maryland, Article 83A, Title 5, Subtitle 14, Brownfields Revitalization Incentive Program, §§ 5-1401–5-1411 (2001), establishes the State's brownfields financial incentives program.

Program Organization and Funding

The Department of the Environment (MDE), Waste Management Administration, Environmental Restoration and Redevelopment Program (ERRP) administers the State's hazardous substance cleanup programs. The program employs 35 FTE staff. Legal support is provided by the Attorney General's office, which has two attorneys located at MDE who work on hazardous substance cleanup.

Funding for the staff and administration of the State's cleanup program comes from the State general fund (20 percent) and from Federal grants (80 percent). Funding for the staff and administration of the State's voluntary cleanup and Brownfields programs is provided 100 percent by the State general fund.

Cleanup Activities

Maryland's priority list is the same as the EPA's CERCLIS list for sites in Maryland.

Cleanup is currently underway at nine non-NPL sites under the State cleanup program. During FY00, 11 cleanup activities were completed under the State cleanup program. Under the voluntary cleanup program, cleanups are currently underway at eight sites. During FY00, nine cleanups were completed under the voluntary cleanup program. Since the start of the voluntary cleanup program, cleanup of 39 sites has been completed. Thirty received No Further Requirements (NFRs) and nine received a Certificate of Completion (COC). The NFRs are sites where no cleanup was required and the site received a sign-off. The COCs are sites where a cleanup was completed.

Cleanup Funding

The Hazardous Substance Control Fund had a balance of $1.8M at the end of FY00. During FY00, $1.8M was added to the fund and $1.8M was encumbered. In addition, during FY00, $7K was spent on non-NPL sites. The Fund is available for site investigation, CERCLA match, studies and design, operation and maintenance, removals, emergency response, remedial actions, program administration, natural resource restoration, and long-term stewardship. Its major source of funding is appropriations, and its minor sources of funding are penalties and cost recovery.

The Voluntary Cleanup Fund had a balance of $0 at the end of FY00. Since the inception of the program, 106 applications have been submitted and $636K in fees have been placed in the fund. If the State does not use the entire $6K fee paid by a participant in its oversight role, it will refund the balance; conversely, if State oversight costs more

than $6K, the balance will be collected from the participant. The Fund is used for program administration. Its major source of funding is appropriations and its minor source of funding is user fees.

Numerical information for the Brownfields Revitalization Incentives Fund was not available. The Fund may be used for site investigation, studies and design, operation and maintenance, removals, and remedial actions. The funding source is appropriations.

Cleanup Policies and Criteria

Under the State cleanup program and under the voluntary cleanup/brownfield program, the Department applies water quality criteria, groundwater standards, MCLs/MCLGs, risk-based assessments, background levels and EPA guidelines, as appropriate, to establish cleanup levels. The State uses a 10^{-5} risk standard for risk assessment carcinogens and ground water standards. The State also uses a Hazard Index of 1 for risk assessment non-carcinogens and for soil standards. The State statute lists options for selecting and applying the State cleanup criteria. For an orphan site, assumptions about future site specific land use are based on the current zoning; therefore, cleanup is required for the current zoning level and then a deed restriction is placed on the site. For sites with applicants, cleanup is required to the current land use designation unless the applicant can show that the area will be rezoned.

Public Participation

Maryland has statutory requirements for hearings and document availability, as well as regulatory requirements for notice and public comment. Community involvement is encouraged if there is interest. The voluntary cleanup law provides for notice and comment, as well as an opportunity for a public informational meeting to discuss proposed cleanup plans.

Enforcement

Liability

Maryland law authorizes strict and retroactive liability. The State has civil penalty authority of up to $25K per violation. Treble punitive damages may also be imposed. Through the Voluntary Cleanup Program, certain purchasers who did not cause or contribute to contamination may limit their retroactive liability upon purchase of the property.

Property Transfer

The State does not have any property transfer provisions, other than residential property disclosure requirements.

Voluntary and Brownfields Programs

Maryland's Voluntary Cleanup Program was established by statute in 1997. Any site that is contaminated or perceived to be contaminated is eligible for participation, except for NPL sites, sites under active enforcement, or TSD facilities. Eligible applicants include "responsible persons" who have not knowingly or willingly violated any hazardous substance law, as well as "inculpable persons," defined as purchasers with no previous connection to the property. An initial fee of $6K is collected from each applicant, although the fee is ultimately based on the actual cost of State oversight. Program incentives include a streamlined process, determination of no further requirements, and issuance of a certificate of completion, which releases the participant from State enforcement action and further liability for remediation approved by the State.

Maryland's brownfields program consists primarily of the Brownfields Revitalization Incentive Program, a financial incentives program established by statute in 1997, and the Brownfields Site Assessment Initiative, established by policy to provide free site assessments to publicly-owned sites that are likely to be cleaned up, sites that are not on CERCLIS, and sites that are not seriously contaminated. In addition, the State's Voluntary Cleanup Program includes some sites that meet the traditional definition of brownfields but not the definition in the State's formal brownfields initiatives.

The Brownfields Revitalization Incentives Program is open to sites that are not on the NPL list, are not TSD facilities, and are not subject to active enforcement, provided those sites are owned or operated by an "inculpable" person. The State brownfields law lists several factors to be considered in determining eligibility for financial assistance, including location, type of site and economic development potential. Fifty-seven (57) sites have been identified for participation in the Brownfields Site Assessment Initiative.

Long-term Stewardship and Institutional Controls

The State has a long-term stewardship program in the State cleanup program, the voluntary cleanup program, and in the brownfields program. Monitoring, institutional controls, enforcement, and review and reevaluation are all included in the programs. One-tenth (0.1) FTE is designated to carry out long-term stewardship programs. No funding is designated for carrying out long-term stewardship programs. The State does not currently have a database to track institutional controls used at cleanup sites but plans to have one in the near future. The State is developing an Internet GIS-based site tracking system that will include a computerized map, site number identifier, and the list of controls that are required at each site. The State will make the results of the tracking system available to the public through the public access to information (PIA), State FOIA, and through the Internet. The primary purposes for the tracking system will be implementation, monitoring, and enforcement. The system will track institutional control use at State cleanup program sites, voluntary cleanup sites, and brownfields cleanup sites. The State will be the primary user of the system and the public will be the secondary user. The system will not include information on the costs of institutional controls.

Sites where institutional controls have been implemented are reviewed between every one and five years, and these results are made available to the public through PIA. Multiple institutional controls are often used. Containment remedies, such as a deed restriction for nonresidential use and groundwater use restrictions, govern when multiple institutional controls are used. Institutional controls have also been used as the sole remedy for sites. The vast majority of sites with a no further requirements determination only require an institutional control such as a deed restriction or a groundwater use restriction.

Violating a deed restriction or an institutional control or the new discovery of contamination are reopeners for a site not cleaned to an unrestricted use standard. The long-term stewardship program is different for RCRA sites since theses sites are often cleaned to the background level.

PENNSYLVANIA

State Sites

Known and Suspected:	50
Identified as Needing Attention:	20
On Inventory or Priority List:	6

Statutory Authorities

The *Hazardous Sites Cleanup Act* (HSCA) (Act 1988-108), 35 P.S. §6020.101 *et seq.*, establishes the Hazardous Sites Cleanup Fund and authorizes the Department of Environmental Protection to clean up sites contaminated by hazardous substances. The law provides for enforcement; strict, proportional, joint and several liability; cost recovery; public participation; natural resource damage assessment and recovery; water replacement; a priority list; a voluntary cleanup program; environmental disclosure upon property transfer; and long-term stewardship.

The *Land Recycling and Environmental Remediation Standards Act*, (LR&ERSA) (Act 1995-2), 35 P.S. §6026.101 *et seq.*, establishes remediation standards and a voluntary cleanup program, and addresses brownfields sites. The LR&ERSA provides for release of liability and financial assistance.

Program Organization and Funding

The Land Recycling and Cleanup Program in the Department of Environmental Protection (DEP) handles hazardous substance cleanup and has 120 FTE staff. The DEP Office of Chief Counsel provides legal support with approximately 12 FTE attorneys. The State cleanup fund provides 100 percent of administrative costs for the State cleanup and voluntary programs.

Cleanup Activities

Cleanup activities are currently underway at approximately 511 non-NPL sites, with 491 of those sites involving voluntary remediation. Since the start of the State cleanup program, cleanup activities have been completed at 1110 non-NPL sites, 1000 of which involved voluntary cleanups. Cleanup activities were completed at a total of 240 non-NPL sites during FY00, 230 of which involved voluntary cleanups. Pennsylvania uses criteria similar to NPL criteria for placing sites on the State's priority list. When the State determines that a substantial danger exists, the Hazard Ranking System, established under the federal Superfund Act, is used to rank the sites.

Cleanup Funding

The Hazardous Sites Cleanup Fund (HSCF) had a balance of $98M at the end of FY00. Additions to the HSCF during FY00 totaled $43M. During FY00, $39M was paid out and $31M was obligated or encumbered. A significant source for the HSCF was a capital stock and franchise tax, which generated $26M. Other sources were hazardous waste transportation and management fees, interest, penalties, and cost recoveries. Fund monies may be used for site investigation, studies and design, operations and maintenance, removals, remedial actions, grants to local government, program administration, CERCLA match, emergency response, and long-term stewardship.

The Industrial Sites Cleanup Fund (ISCF) provides grants and low interest loans to innocent parties for the cleanup of sites. At the end of FY00, the ISCF had a balance of about $10M and an additional $16.6M was obligated. Fund monies may be used for site investigation, removals, grants to local governments, program administration, and remedial actions.

The Industrial Sites Environmental Assessment Fund (ISEAF) provides grants to municipal authorities, nonprofit agencies and others for investigation of sites located in municipalities that have been designated as distressed communities. At the close of FY00, the ISEAF had a balance of about $2M, and an additional $3.1M had been obligated. Fund monies may be used for site investigation and remedial actions.

Cleanup Policies and Criteria

The LR&ERSA, along with its implementing regulations adopted in 1997, established remediation standards and procedures for a volunteer cleanup program. The party undertaking cleanup must select one or a combination of the standards set out in the law and regulations. The three general remediation standards are: background; generic State-wide health standards (concentrations of regulated substances associated with a specific environmental medium, which take into account land use factors); and site-specific standards (risk assessment). Water quality criteria and MCLs/MCLGs are used where appropriate to determine cleanup levels. Groundwater, soil, land use-based, and chemical-specific health-based standards are also used.

The levels used for risk assessments are 10^{-4} for carcinogens and a Hazard Index of less than or equal to 1 for non-carcinogens. When a risk-based cleanup standard is used, the "proposed land use" is determined by the landowner or buyer. If a site is abandoned the "zoned use" is applied.

The regulations implementing LR&ERSA also provide a remediation standard for "special industrial areas" (brownfields). The requirements include a remediation plan that provides for (a) addressing "all immediate, direct or imminent threats to public health and the environment which would prevent the property from being occupied for its intended purpose" and compliance monitoring; and (b) preventing access to contaminated areas not required to be remediated.

For sites cleaned up to standards based on a specific land use, deed notice is the primary mechanism use by the State to maintain future land use restrictions. In some cases, deed restrictions are used.

Public Participation

The HSCA establishes requirements relating to public notice, public comment, hearings and meetings, document availability, and grants to citizen groups. The State provides public notice of the analysis of a selected response action and alternatives. The public notice is followed by a 90-day comment period. A public hearing is held within the 90-day comment period. HSCA also has a citizen suit provision.

The LR&ERSA and its regulations contain public participation requirements for parties proposing remediation under one of the law's cleanup standards. These include public notice and comment, as well as the development of public involvement plans where the site-specific standard is used and the affected municipality requests to be involved.

Community Relations Coordinators perform additional public participation functions on an ad hoc basis.

Enforcement

Liability

HSCA provides for comprehensive order and injunctive authorities; orders for information and access; criminal and civil penalties; and punitive damages equal to treble the State's costs. Civil penalties are a minimum of $5K per day and a maximum of $25K per day. Liability is strict, proportional, joint and several, and retroactive. HSCA also provides for NBARs, *de minimis* settlements, legal presumptions of culpability for contamination, and whistleblower protection.

There is a 120-day notice period before a site may be placed on the State list to encourage responsible party cleanup prior to listing. There is also a 120-day moratorium on enforcement at multi-party sites if RPs seek to negotiate shares. For remedial actions extending beyond interim actions, HSCA §1301 requires DEP to initiate action against owners or operators under other State laws (*e.g., Clean Streams Law* and the *Solid Waste Management Act*) before taking HSCA enforcement or cost recovery actions.

Property Transfer

HSCA §512 requires disclosure on the deed, or with the recorder of deeds, that the site was or is being used for the disposal of hazardous substances. The seller must also disclose the presence of hazardous substances on the site before transfer. This requirement is waived if cleanup is completed to State-wide standards. Pennsylvania's residential

property transfer law requires disclosure of known material defects prior to transfer of certain residential properties. The State can apply a lien when State funds are expended.

Voluntary and Brownfields Programs

LR&ERSA established the voluntary cleanup program in 1995. Since then, the program has accounted for a substantial majority of cleanup activities in the State. The program is open to all sites except those involving intentional, malicious, or illegal disposals. The program maintains State-wide health standards for cleanup. State participation is funded by the State general fund, a $250 fee for required plans and reports, and a $500 fee for a site-specific final report. Grants and loans from the Department of Community and Economic Development are available for site assessment and remediation. The voluntary program's clear procedures and cleanup standards are an incentive to prospective volunteers. Participants in the program receive relief of liability for contamination identified and remediated.

Voluntary cleanups can take place in "special industrial areas," defined as orphan sites or sites within State-designated enterprise zones. The remediator may not have caused or contributed toward the contamination. Special industrial areas have more lenient standards and only "imminent direct and immediate threats" are required to be remediated. Offsite groundwater is not included in the scope of a special industrial area cleanup. Other facets of the brownfields program are identical to the voluntary cleanup program. The brownfields program has 287 cleanups underway and 883 brownfield sites identified.

Long-term Stewardship and Institutional Controls

Pennsylvania has a long-term stewardship program for its State cleanup program, voluntary cleanup program, and RCRA program. Elements of the long-term stewardship program include monitoring and institutional controls. Long-term stewardship duties are a part of many staff workloads but there are no personnel dedicated to the long-term stewardship program. Currently there is no dedicated funding for the program.

The State is in the process of developing a database to track institutional controls at voluntary cleanup sites and brownfields sites. Once the database is in place it will be made available to the public over the Internet. It is hoped that the database will help the DEP measure compliance and provide valuable information to the general public and prospective property buyers and developers. The State plans to review the status of institutional controls annually once the tracking system is in place.

Multiple institutional controls are sometimes used at the discretion of the remediator and are currently being used at less than 20 sites. Institutional controls have been used as the sole remedy for a site in fewer than 12 cases. Reopeners in the long-term stewardship program are handled in the same way as any other mandatory or voluntary site.

VIRGINIA

State Sites

Known and Suspected:	2,015
Identified as Needing Attention:	411
On Inventory or Priority List:	130

Statutory Authorities

The *Waste Management Act*, Va. Code §§10.1-1400 – 10.1-1457 (1986, as amended 1987, 1988, 1990, 1993, 1994, 1995 and 1996), authorizes the Department of Environmental Quality to contain or clean up sites where hazardous wastes have been improperly managed. The law provides for enforcement, strict liability, and cost recovery. The 1995 amendments created a voluntary remediation program.

The *Virginia Environmental Emergency Response Fund Act*, Va. Code §§10.1-2500 – 10.1-2502 (1992) establishes the State fund.

Program Organization and Funding

The Department of Environmental Quality (DEQ), Division of Special Programs, Office of Remediation Program, has 18 FTE staff. At the State Attorney General's office, one full-time attorney handles all waste cases for the DEQ, and a small fraction of that attorney's time is spent on superfund-related work. Federal grants provide 100 percent of program staff and administration costs for the state cleanup program and for the voluntary cleanup program.

Cleanup Activities

State activity at non-NPL sites consists primarily of oversight of federal facility and voluntary cleanups. Virginia's inventory of sites contains 130 non-NPL sites. This inventory consists of 78 voluntary remediation sites, 30 federal facilities, and 22 brownfields.

Cleanup activities are currently underway at 98 non-NPL sites and 68 of these sites are being cleaned up under the voluntary cleanup program. During FY00, cleanup activities were completed at 11 sites, all of which were under the voluntary cleanup program. Since the start of the program, 44 sites have been cleaned up, all under the voluntary cleanup program.

Cleanup Funding

The Virginia Environmental Emergency Response Fund (VEERF) was established in 1992 for emergency response actions. Additions of about $1.6M were made to the fund during FY00, and a total of $1M was paid out during FY00 to non-NPL sites. Penalties are the principal source of revenue for the VEERF, with interest being a minor source. Monies from the VEERF may be authorized for site investigation, CERCLA match, studies and design, removals, emergency response, grants to local governments, and remedial actions.

Virginia also has a Voluntary Remediation Registration Fee Fund, consisting of fees paid by participants in the voluntary cleanup program. At the end of FY00, the balance was $0. At the end of FY00, $261,900 was obligated or encumbered as this money was in escrow until a certification of completion was issued to the participant. During FY00, $29,500 was added to the fund and $6,500 was paid out. These monies may be used for administration of the program.

Cleanup Policies and Criteria

The State uses the same cleanup standards for all hazardous substance cleanup programs and for RCRA corrective actions. For the State cleanup program, the State uses a risk assessment range of 10^{-6} and a Hazard Index of 1 for non-carcinogens. In establishing cleanup levels, the State also uses water quality standards, MCLs, groundwater standards, soil standards, and background level data, as appropriate. The State's voluntary cleanup program also uses land-use-based standards to establish cleanup levels.

Remediation levels are based on a risk assessment of the site and surrounding areas, reflecting the current and future use scenarios. Regulations for the voluntary remediation program employ a three-tiered approach to establishing cleanup standards. Tier One uses background levels; Tier Two uses regulatory levels (such as MCLs or water quality standards) or risk-based concentrations; and Tier Three uses site-specific risk assessment. Assumptions about future site-specific land use are based on the participant's proposal.

Public Participation

Virginia uses the federal Superfund regulations for notice and comment concerning the analysis of NPL site cleanup alternatives. State regulations establish public notice and comment requirements for the voluntary remediation program.

Enforcement

Liability

The State cleanup program has strict liability. Whether the State program can impose retroactive liability has not been decided or tested. The State has the authority to issue unilateral administrative consent orders, take injunctive action, and impose civil penalties of up to $25,000 per day per violation of an order. Punitive damages are not available.

Property Transfer

The State has no property transfer provisions or restrictions, other than residential property disclosure requirements.

Voluntary and Brownfields Program

Since 1997, the State has had a program for voluntary cleanups of contaminated sites (Va. Code, §§10.1-1429.1 - 1429.3). Regulations provide a framework for selecting cleanup standards under the voluntary program. Eligibility is limited to sites where remediation is not mandated pursuant to a federal or State regulatory program. Incentives for participation in the program include the issuance of a certification of satisfactory completion of remediation, which constitutes immunity to a State enforcement action. State oversight is funded in part by a fee of $5K or 1 percent of the cost of remediation, whichever is less.

Virginia has a Brownfields Site Assessment program. The program covers sites with a local government interest and a potential for redevelopment. Twenty-two (22) sites have been included in the program, and cleanup is underway at six sites. One site has been redeveloped and one site has a commitment for reuse or redevelopment. The State provides the site assessment service as an incentive for the reuse or redevelopment of brownfields.

Long-term Stewardship and Institutional Controls

Virginia does not have a long-term stewardship program for its State cleanup program or for its voluntary cleanup program.

WEST VIRGINIA

West Virginia did not provide any information for this study.

State Sites

Known or Suspected:
Identified as Needing Attention:
On Inventory or Priority List: N/A

Statutory Authorities

The *Hazardous Waste Management Act*, W.Va. Code §§ 22-18-1 through 22-18-25 (1981, as amended 1985, 1989, 1991, and 1994), establishes the State's hazardous waste management program and includes property transfer disclosure requirements. The law provides for enforcement and authorizes the Department of Commerce, Labor, and Environmental Resources to protect public health and the environment in cases where the "handling, storage, transportation, treatment or disposal of any hazardous waste may present an imminent and substantial endangerment to public health, safety or the environment."

The *Hazardous Waste Emergency Response Fund Act*, W.Va. Code §§ 22-19-1 through 22-19-6 (1984, as amended 1994), establishes the Hazardous Waste Emergency Response Fund for responding to hazardous waste emergencies and funding the CERCLA match, and it also authorizes cost recovery.

The *Groundwater Protection Act*, W.Va. Code §§ 22-12-1 through 22-12-14 (1991, as amended 1993 and 1994), establishes groundwater standards, which may be used by the State to determine cleanup levels.

The *Voluntary Remediation and Redevelopment Act,* W.Va. Code §§ 22-22-1 through 22-22-21 (1996), establishes the State's voluntary cleanup and brownfields programs, as well as long-term stewardship authority.

Program Organization and Funding

The Office of Waste Management, within the Division of Environmental Protection (DEP) in the Department of Commerce, Labor, and Environmental Resources, administers emergency response, site assessment for federal Superfund and Hazardous Waste/RCRA activities. The Office of Environmental Remediation was created in the fall of 1997 to administer the LUST, corrective action and voluntary cleanup programs. Attorneys in DEP's Office of Legal Services provide legal support.

Cleanup Activities

West Virginia does not have a State priority list or inventory of sites. The State provided no additional information on cleanup activities.

Cleanup Funding

The Hazardous Waste Emergency Response Fund is one source of funding for the State program. Waste fees constitute the major source of revenue for the Fund, with minor revenue from cost recovery. The Fund may be used for CERCLA match, operations and maintenance, removals, program administration, and emergency response.

The Brownfields Revolving Loan Fund is another source of funding for the State brownfields program.

Cleanup Policies and Criteria

The State uses risk assessment for carcinogens and noncarcinogens, background levels, water quality criteria, MCLs/MCLGs, soil standards and land use to establish cleanup levels. The State uses risk levels between 10^{-4} and

10^{-6} for excess cancer cases and a Hazard Index of 1 for noncarcinogens. The default risk levels are 10^{-5} for industrial sites and 10^{-6} for residential sites, with flexibility to clean up to lower standards than these if the responsible party goes through the public participation process. The State uses a three-tiered approach for selecting and applying standards and criteria for the voluntary cleanup program. This approach consists of *de minimis*, uniform and site-specific contamination standards.

Future site specific land use assumptions are disclosed in the application and negotiated in the Voluntary Remediation Agreement.

Public Participation

Formal requirements for public participation exist only under the voluntary cleanup program, under which public notice, provisions for public comment, and hearings and meetings are required by statute. By participating in the public participation process, an RP may move off of the default risk level to a less stringent cleanup level. Public participation always takes place under the State brownfields program.

Enforcement

Liability

The State's liability standards are not specified. Civil penalties are authorized for violations of orders; punitive damages are not available.

Property Transfer

State law and regulations require disclosure on the property deed, lease, or any other instrument, that property or surface of property was used for the storage, treatment or disposal of hazardous waste.

Voluntary and Brownfields Programs

The State has separate voluntary cleanup and brownfields programs. The voluntary cleanup program was established by statute in July 1996 and by regulation in July 1997. A guidance manual was issued in July 1998. All sites are eligible for the program, except for those with unilateral orders and those on (or being proposed for) the NPL, provided the release was not created by gross negligence or willful misconduct. Incentives for participating in the voluntary program include predictability, the Voluntary Remediation Agreement, and a Certificate of Completion. The State's participation is funded by flat fees of $1K, $3K, or $5K, depending on the age of the site and the SIC code. Hourly fees are charged after the Voluntary Remediation Agreement is signed. Volunteers must use a State-licensed remediation specialist.

The State's brownfields program was established by statute in 1996. An applicant to the brownfields program cannot be responsible for the contamination. State law creates a Brownfields Revolving Loan Fund for site assessments and other related activities, as an incentive for participation in the program.

Long-term Stewardship and Institutional Controls

The use of institutional and engineering controls is authorized under the voluntary cleanup program. As institutional controls to support land use assumptions, the State uses land use covenants enforceable by the State and a GIS/Public Empowerment database on the World Wide Web. State law requires that tax assessors notify the State of any changes in land use.

REGION 4

Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

ALABAMA

State Sites

Known and Suspected:	730
Identified as Needing Attention:	125
On Inventory or Priority List:	N/A

Statutory Authorities

The Code of Alabama §22-30A-1 et seq. (1988) authorizes the Hazardous Substances Cleanup Fund and provides general authority for enforcement and voluntary cleanups. The *Hazardous Waste Management and Minimization Act*, §22-30-1 et seq., provides general enforcement authorities. The *Alabama Land Recycling and Economic Redevelopment Act* (ALRERA), §22-30E-1 et seq., passed in 2001, authorizes long-term stewardship, voluntary cleanups, and brownfields. The *Dry Cleaners Environmental Response Trust Fund* (DERTF) Act, §22-30D-1 et seq., passed in 2000, authorizes a cleanup fund and a priority list.

Program Organization and Funding

The Hazardous Waste Branch of the Land Division of the Alabama Department of Environmental Management (ADEM) employs approximately 26 FTE staff who work on the cleanup programs, out of about 80 staff in the Branch and field offices and laboratories. ADEM's Office of General Counsel provides one attorney who works as needed on the hazardous substance cleanup program. Funding for staff and administration comes from federal CORE and cooperative agreements (33 percent), the State Cleanup Fund (10 percent), and RCRA Grants and fees (57 percent). Funding for staff and administrative costs for the voluntary cleanup program comes from federal CORE and cooperative agreements (95 percent), and the State Drycleaner Environmental Response Trust Fund and ALRERA fees (new, amount to be determined).

Cleanup Activities

Cleanup activities are currently underway at 32 non-NPL sites, between five and 10 of which are being remediated under the State's voluntary cleanup program. During FY00, cleanups were completed at 22 non-NPL sites, two or three of which were handled under the voluntary program. Since the start of the program, cleanup activities have been completed at 200 non-NPL sites, between 35 and 40 of which were remediated under the State's voluntary cleanup program. The State does not have a priority list.

Cleanup Funding

The Hazardous Substance Cleanup Fund (HSCF) had a balance of $450K at the end of FY00. During the fiscal year, $332.7K were paid out, all for non-NPL sites. No monies were obligated or encumbered at the end of FY00. Additions to the fund during FY00 totaled $260.6K. The HSCF's most significant source of funding is cost recovery and reimbursements. Taxes and appropriations are a minor source of funding. Authorized uses of the fund include site investigation, CERCLA match, studies and design, operations and maintenance, removals, emergency response, remedial actions, long-term stewardship, and program administration.

The Drycleaner Environmental Response Trust Fund, a new fund, received $170K as of May 2001. Its source of funding is user fees. Authorized uses of the fund include site investigation, CERCLA match, studies and design, operation and maintenance, removals, remedial actions, and program administration.

Cleanup Policies and Criteria

In Alabama, regulated entities propose site-specific cleanup criteria based on guidance established in a corrective action permit or order. Risk assessment, background levels, water quality criteria, MCLs/MCLGs, groundwater standards, chemical-specific health-based standards, and land-use based considerations are used to determine cleanup standards. Numerical risk goals range from 10^{-4} (for industrial site use) to 10^{-6} (for residential properties). For noncarcinogens, Hazard Index is 1. When using a land-use or risk-based cleanup standard, future residential land use is assumed, unless institutional controls are established through a continuing enforcement document. Regulations under development for the new voluntary cleanup and brownfields program (ALRERA) and the dry cleaner program (DERTF) will provide the process for these programs.

Public Participation

Alabama is required by law to provide public notice, receive public comment, and hold hearings and meetings at State-funded sites. The State is also required to provide public notice and to receive public comment for voluntary and brownfields sites.

Enforcement

Liability

Liability is proportional and retroactive. Civil penalties are authorized up to $25K per day per violation of an order. No punitive damages are available.

Property Transfer

Alabama Hazardous Waste Act requires that there be a disclosure on the deed or with the recorder of deeds that a site was or is contaminated with hazardous substances if the site does not return to unrestricted use.

Voluntary and Brownfields Programs

In May 2001, legislation establishing Alabama's voluntary cleanup and brownfields programs was passed. Owners, operators, and prospective purchasers of sites contaminated with hazardous waste, hazardous substances, or petroleum products (other than underground storage tanks) are eligible to participate in the voluntary program. NPL sites, RCRA treatment, storage and disposal units, and sites under cleanup order are not eligible. Program incentives include limited liability protection for owners and operators and broad liability protection for prospective purchasers, lenders, and clean-hands parties. Other incentives are to be developed. The State's participation is funded through fees, which are to be determined, and reimbursement of oversight costs. Sites eligible for voluntary cleanup are also eligible for the brownfields program. Regulation for the brownfields program is currently under development, but standards will be the same as the voluntary program and will be consistent with other programs (such as CERCLA, RCRA, AHSCF, etc.). The recently passed statute establishes an incentives commission to recommend future incentives.

Long-term Stewardship and Institutional Controls

Alabama has a long-term stewardship program for its State, voluntary, brownfields, and RCRA sites. Approximately 20 employees have LTS work as part of their designated duties. Funding for LTS programs is not tracked separately from other cleanup funding. A database that will track institutional controls at cleanup sites is under development as part of the voluntary and brownfields programs and will be adapted to other programs. Information on reviewed sites will be maintained in public files.

FLORIDA

State Sites

Known and Suspected:	2,646
Identified as Needing Attention:	2,460
On Inventory or Priority List:	46

Statutory Authorities

The *Pollutant Discharge Prevention and Removal Act*, Fla. Stat. §§ 376.30 through 376.85, authorizes the Water Quality Assurance Trust Fund and a priority list. The statute also provides authority for enforcement, voluntary cleanups, long-term stewardship, and brownfields. Sections 376.77 through 376.85, the *Brownfields Redevelopment Act*, establish the State's brownfields program, eligibility criteria, and the process by which an area may be designated a brownfield. It also provides for institutional controls and voluntary cleanups. Florida Statutes, Chapter 403 establishes general authority for enforcement and citizen suits.

Program Organization and Funding

The Department of Environmental Protection (DEP), Division of Waste Management, Bureau of Waste Cleanup employs 71 FTE staff. Of the 71, approximately 34 work on non-NPL, superfund-type cleanup issues. In addition to the 34 FTEs in the Bureau's headquarters office, the DEP's six district offices employ a total of 37 FTEs in their Waste Cleanup sections who also work on non-NPL, superfund-type cleanup issues. The district staff includes six Brownfields Coordinators (one per district) who oversee voluntary cleanup of brownfields sites. Two attorneys in DEP's Office of General Counsel provide legal support. Funding for staff and administration comes from the State cleanup fund (85 percent) and federal grants/cooperative agreements (15 percent). Funding for the voluntary cleanup program comes from the State General Fund (100 percent).

Cleanup Activities

Cleanup activities are underway at approximately 1,263 non-NPL sites. Since the start of Florida's program, cleanup activities have been completed at 1,859 non-NPL sites. It is unknown how many of these cleanups were or are being handled through the State's informal voluntary cleanup program.

Four criteria are used for listing a site on the State's priority list and spending State funds on remediation: (1) the site is not on the NPL (exceptions apply if federal funding limitations require State monies to complete the activity or when federal cleanup activities are not prompt enough to alleviate an impending danger to the environment or public health); (2) the site has been given a score by use of the existing Hazard Ranking System; (3) enforcement and permitting actions have resulted in technically inadequate or delayed cleanup; and (4) the expenditure of funds could eliminate or minimize further environmental degradation and/or existing public health threats.

Cleanup Funding

The Water Quality Assurance Trust Fund (WQATF) had a balance of $15M at the end of FY00. The current balance includes monies used to fund activities other than hazardous substance cleanup programs. A total of $9.5M was obligated at the end of FY00 and $4.3M were paid out. The most significant source of funding was taxes, and additional minor funding came from interest, penalties, and transfers. DEP receives an appropriation from the Florida Legislature for each fiscal year, which is the authority to spend the revenues granted. Authorized uses of the Fund include site investigation, CERCLA match, studies and design, operations and maintenance, removals, emergency response, grants to local governments, remedial actions, program administration, natural resource restoration, long-term stewardship, and drinking water supply restoration.

Cleanup Policies and Criteria

For GI and GII aquifers, State drinking water and groundwater standards apply since they are considered potable resources. Soil cleanup target levels are generally based on default levels established for residential and industrial uses that incorporate exposure assessment and leachability. Parties may conduct a site-specific risk assessment to derive alternative cleanup target levels. However, DEP's authority to apply site-specific cleanup levels generally has come into question as a result of the Florida Legislature adopting Risk-Based Corrective Action for sites contaminated with petroleum or drycleaning solvents and brownfields sites. For these three types of sites, the statute specifically authorizes the use of site-specific criteria. Since there is no statutory authority to use the same methodology at other sites, the legality of doing so has become a point of concern.

Cleanup criteria for the hazardous substance cleanup program are based on risk assessment; background levels; water quality criteria; MCLs/MCLGs; groundwater standards; chemical-specific health-based standards; land use considerations; and nuisance, organoleptic, and aesthetic standards. Cleanup criteria for the voluntary cleanup program and the brownfields program are the same as for the State cleanup program, but include soil standard criteria. Land use assumptions are based on local planning board determinations, current and projected use, and individual site characteristics. Specified land use may be ensured through institutional controls including, but not limited to, deed restrictions, restrictive covenants, or conservation easements. Numerical risk goals are set at 10^{-6} for carcinogens and a Hazard Index of 1 for noncarcinogens.

Public Participation

The *Brownfields Redevelopment Act* includes specific public participation requirements including public hearings/meetings, public notice of certain agency decisions, and provisions for public comment. For non-brownfield sites, citizen participation is not required by statute but exists on an ad hoc basis. Citizen involvement varies on a site-specific basis as per request by individual parties, and may include door-to-door outreach, public meetings, and public comment opportunities. Additionally, Chapter 119 of the Florida Statutes, requires that all State records, including site cleanup documentation, be open at all reasonable times for personal inspection by any person.

Enforcement

Liability

Legal authorities include retroactive, strict, and joint and several liability. Civil penalties of up to $50K per day are available for continued violations under the *Resource Recovery and Management Act*, Chapter 403, Fla. Stat.. Punitive damages are not available. The Department does not have unilateral order authority. The enforcement process includes warning notices, consent orders, notices of violations, civil suits, and appeals.

Property Transfer

Florida does not require notice of on-site contamination prior to property transfer. Under Fla. Stat. 376.308, the State provides a limited "due diligence" exemption from liability for sites contaminated with petroleum that are purchased after July 1, 1992, or sites contaminated with drycleaning solvents that are purchased after July 1, 1994. The potential purchaser has the burden of investigating past uses and ownership of the property. Parties with more knowledge and experience with contamination are held to higher standards for the extent of inquiry. The State also maintains several databases of known or listed sites.

Voluntary and Brownfields Programs

The State conducts an informal voluntary cleanup program whereby parties are referred to the appropriate district staff for cleanup assistance. Informal negotiations are then conducted and a voluntary cleanup agreement or a consent order may be signed. Parties are required to follow applicable rules and technical guidance documents throughout cleanup. There are no restrictions on eligibility of persons. All sites except those on the NPL are eligible to participate. Funding for the State's oversight comes out of the State's general budget. A tax credit incentive is

available for voluntary cleanup of drycleaning solvent contaminated sites that meet certain conditions. The Voluntary Cleanup Tax Credit (VCTC) allows an eligible applicant to receive up to 35 percent of the costs of voluntary cleanup activity that is integral to site rehabilitation, not to exceed $250K per site per year, in tax credits good toward Florida Corporate Income Tax or Intangible Personal Property Tax.

Florida also has a brownfields program, enacted by statute on July 1, 1997. The *Brownfields Redevelopment Act* permits any person who has not caused or contributed to the contamination of a brownfield site after enactment of the law to participate in the program. Certain restrictions apply to sites subject to federal or State enforcement. Also, the statute establishes a process through which "brownfield areas" may be designated by local government by resolution with appropriate public notice and hearings. In designating a brownfield area, the local government must consider nine specific issues outlined in the statute. The Brownfields Cleanup Criteria Rule, Chapter 62-785, Florida Administrative Code (presently undergoing rulemaking), establishes default cleanup target levels (CTLs) and authorizes alternative CTLs on a site-specific basis. Regulatory incentives for participation include liability protection for program participants (and lenders under certain conditions) from State and third party claims, issuance of no further action letters, and risk-based corrective action whereby participants may be allowed to use alternative CTLs along with institutional and engineering controls to manage risk by controlling exposure. Economic incentives include a "Bonus Refund" whereby participants receive $2.5K for each new Florida job created in a brownfield area. Other State incentives include low-interest loans for clearing liens or other encumbrances on property titles, a loan guarantee program, streamlined permitting, and tax credits. One of the available tax credits is a State sales tax credit for building materials purchased for the construction of a housing project or mixed-use project within a designated brownfield area. The other tax credit available to brownfields sites in designated brownfield areas is the VCTC mentioned above. The Brownfields Act also encourages State and local governments to offer similar redevelopment incentives.

Long-term Stewardship and Institutional Controls

Florida's long-term stewardship program is used at State cleanup, voluntary, brownfields, and RCRA sites. Funding for long-term stewardship is not allocated separately from other cleanup funds. Approximately one FTE is designated for long-term stewardship. The State maintains a tracking system that tracks the use of institutional controls at sites. It is available online for public users. Primary users of the system are State employees and secondary users are the public. Policy is under development for reviewing sites where ICs have been implemented. The results of the reviews will be made available to the public. Not all voluntary cleanups are eligible for the long-term stewardship program; DEP does not have the authority to deviate from State water quality standards for sites that fall outside of the State's petroleum, drycleaning, and brownfields programs.

GEORGIA

State Sites

Known and Suspected: 1,280
Identified as Needing Attention: 422
On Inventory or Priority List: 532

Statutory Authorities

The *Hazardous Site Response Act of 1992* (HSRA), O.C.G.A. 12-8-90, establishes a cleanup fund, enforcement authorities, property transfer provisions, and a priority list. The *Hazardous Site Reuse and Redevelopment Act of 1996 (*HSRRA), O.C.G.A. 12-8-200, limits liability for non-responsible parties who voluntarily enter into consent decrees with the Environmental Protection Division to clean sites listed on the hazardous site inventory to State standards.

The Georgia *Hazardous Waste Management Act*, O.C.G.A. 12-8-60, provides for enforcement authority and information requests.

Program Organization and Funding

The Georgia Department of Natural Resources, Environmental Protection Division (EPD), Hazardous Sites Response Program had 39 FTEs at the end of FY00. A total of 42 FTEs are currently authorized. The State Law Department provides legal support with one FTE attorney. All funding for staff and administration came from the State cleanup fund.

Cleanup Activities

Cleanup activities are underway at 274 non-NPL sites, two of which are being handled through the voluntary program. During FY00, cleanup activities were completed at 12 non-NPL sites. Since the start of Georgia's program, cleanups have been completed at 113 non-NPL sites.

Listing criteria for the State's priority list are based on a reportable quantity screening method that mathematically integrates data on contaminant release and exposure to generate a numerical score for the site. If the score is above a determined threshold, the site is then placed on the priority list.

Cleanup Funding

The Hazardous Waste Trust Fund had a balance of $12.8M at the end of FY00. A total of $1.7M was obligated or encumbered, all for non-NPL sites. Additions to the fund during the fiscal year totaled $12.8M. A total of $10.5M was paid out. Significant sources of funding include appropriations from solid waste fees and civil penalties. Minor funding was provided by interest. All fund additions must be authorized by the General Assembly and deposited through the General Treasury. Authorized uses of the fund include site investigation, studies and design, operations and maintenance, removals, emergency response, grants to local government, remedial actions, program administration, and CERCLA match.

Cleanup Policies and Criteria

EPD uses statutory authority and guidelines to establish cleanup standards. State law prescribes background levels, water quality criteria, MCLs/MCLGs, groundwater standards, soil standards, chemical-specific health-based standards, and land-use-based considerations. Land-use assumptions are based on reasonably anticipated future use, and are realized through restrictive covenants, enforcement orders, and deed notices. Cleanup standards are based on whether the site will be used for residential or commercial purposes. Responsible parties have the option of applying

standardized or site-specific cleanup levels for the appropriate land use. Groundwater use is presumed to be for human consumption. Although risk assessment is not formally integrated in the Hazardous Sites Cleanup Program, it is frequently used in site-specific exposure evaluations based on standardized exposure assumptions. Risk goals used to determine cleanup standards are 10^{-5} for cancer risks and Hazard Index of 1 for non-carcinogens.

Public Participation

State law requires that public notice and opportunities for public comment be provided for cleanup decisions at State cleanup and voluntary cleanup sites. Hearings/meetings are also provided on an ad hoc basis at State cleanup sites.

Enforcement

Liability

The Hazardous Site Response Act establishes strict, joint and several, and retroactive liability. Civil penalties up to $25K per day may be assessed, and treble punitive damages are available.

Property Transfer

The owner of any site designated by EPD as needing corrective action is required to disclose on the deed or with the recorder of deeds that the site was or is contaminated with a hazardous substance. The State maintains a database of listed sites; a lien may also be placed on the property when State funds are expended.

Voluntary and Brownfields Programs

The State provides an informal mechanism for voluntary cleanups. The Hazardous Site Reuse and Redevelopment Act of 1996, as amended 1998, provides limited liability for non-responsible parties who voluntarily enter into consent decrees with the Environmental Protection Division to clean Hazardous Site Inventory sites to State standards. This provision is limited to prospective purchasers of Hazardous Site Inventory sites. Responsible parties are ineligible for the program. Incentives for voluntary cleanups include protection from cost recovery actions for monies already spent by the State on site cleanup, and limited third party liability for pre-existing releases. The State does not charge a fee for its services in voluntary cleanups, as its participation is funded by the Hazardous Waste Trust Fund. The State does not have a Brownfields program.

Long-term Stewardship and Institutional Controls

Georgia has a long-term stewardship program that covers State, voluntary, and RCRA sites. Less than one FTE is involved in the long-term stewardship program. Sites where institutional controls have been implemented are reviewed at varying time intervals, depending on the site. Quarterly or yearly monitoring reports are generally required and are made available to the public. The same long-term stewardship program is used for the voluntary cleanup program.

KENTUCKY

State Sites

Known and Suspected:	2,200
Identified as Needing Attention:	1,500
On Inventory or Priority List:	750

Statutory Authorities

Kentucky Rev. Stat. Ann. 224.46-580 establishes the Hazardous Waste Management Fund and includes provisions for expenditures. KRS 224.01-400 establishes release notification, reportable quantities, and enforcement authorities. A new section to KRS 224.01-400, passed on June 22, 2001, authorizes voluntary cleanups and brownfields.

Program Organization and Funding

The Department for Environmental Protection (DEP), Division of Waste Management, Superfund Branch currently employs 27 (of 29 authorized) FTE staff who work on federal sites, State sites, petroleum cleanups, and radioactive disposal sites. Legal support for State activities is provided by 1.5 FTE attorneys from the Office of Legal Services. Funding for staff and administration comes from federal grants (10 percent), the State Cleanup Fund (60 percent), voluntary cleanup fees (5 percent), and the State's general fund (25 percent).

Cleanup Activities

Cleanup activities are currently underway at 110 non-NPL sites. During FY00, 25 cleanup activities were completed at non-NPL sites. Since the start of Kentucky's program, approximately 700 cleanups have been completed at non-NPL sites.

Any site that is reported as having contamination is added to the State priority list; later evaluation determines if a release actually occurred and if work is needed.

Cleanup Funding

The Hazardous Waste Management Fund (HWMF) had an unobligated balance of approximately $1.5M at the end of FY00. The fund's balance is capped at $6M. During the fiscal year, $2.1M were added to the fund, $700K were paid out for non-NPL sites, and $4.6M were obligated for use at non-NPL sites. Significant sources of monies are legislative transfers and waste fees. Funding also comes from appropriations, bonds, cost recovery, taxes, and interest. As of June 22, 2001, the fund will receive monies from user fees. The HWMF may be used for site investigation, studies and design, removals, emergency response, remedial actions, CERCLA match, operations and maintenance, program administration, long-term stewardship, and the Kentucky Pollution Prevention Center.

Cleanup Policies and Criteria

State law permits responsible parties to select either a risk-based standard or background levels as the basis for cleanup. Cleanup standards may be derived by potentially responsible parties or consultants and be reviewed by Kentucky's Risk Assessment Branch, or risk screening can be done using published risk tables (EPA Region 9, RPG). The risk-based standards are based on a target risk level of 10^{-6} for carcinogens and a Hazard Index of 1 for noncarcinogens. Kentucky's water quality criteria, soil standards, chemical-specific health-based standards, and land-use-based standards are set at 10^{-6} or Hazard Index of 1.

Cleanup standards in Kentucky are site-specific and are typically risk-based, depending on the proposed future land use and nature and extent of contamination. Responsible parties can clean a site to background levels or below detection (ambient levels) or can propose risk-based cleanup standards. Assumptions on future land use are consis-

tent with the risk assessment Branch's procedures and Environmental Protection Agency Superfund risk assessment Guidance Documents. Residential use is assumed unless the site is being managed by engineering and institutional controls (deed restrictions).

Public Participation

It is standard practice for the State to give public notice, provide opportunities for public comment, hold public hearings or meetings, and provide grants to citizen groups. The new voluntary cleanup program statute requires public notice, provisions for public comment, and hearings and meetings.

Enforcement

Liability

Kentucky has strict, joint and several, and retroactive liability standards. Punitive damages are not available, but the State has authority to invoke civil penalties up to $25K per day for violation of a cleanup order.

Property Transfer

General provisions of the State's real estate law require that sellers disclose the presence of hazardous substances on site before transfer. Kentucky may also require deed disclosure of on-site contamination through the remedy selection process. Liens are available for removal and remedial costs incurred by the State. The State maintains a database of sites where a known release has occurred.

Voluntary and Brownfields Programs

As of June 22, 2001, Kentucky has a formal voluntary cleanup program. Anyone is permitted to participate in the program except for permitted radioactive facilities, NPL and RCRA sites, as well as sites under enforcement action or where there has been an environmental emergency. Incentives for participation include covenant not to sue and time limits on the State review process. The State's participation, which includes the review of documents and remediation, including sampling, is funded through application and oversight fees. Kentucky has no separate brownfields program.

Long-term Stewardship and Institutional Controls

Kentucky has a long-term stewardship program for State, voluntary, brownfields, and RCRA sites. State and voluntary program sites are reviewed every five years and the results are made available to the public in the central file. Kentucky has just begun five-year reviews at sites that have long-term engineering and institutional controls in place and cannot estimate the number of FTEs involved in the program. No money is specifically designated for long-term stewardship. The State has a new tracking database that tracks the use of ICs. The database is not available to the public; its primary users are Superfund Branch staff and its secondary users are other Department staff. The same long-term stewardship program is used for the voluntary and brownfields sites.

MISSISSIPPI

State Sites

Known and Suspected:	1,100
Identified as Needing Attention:	500
On Inventory or Priority List:	200

Statutory Authorities

The *Solid Waste Disposal Act of 1974*, Miss. Code Ann. §17-17-29(4) and (6), establishes a cleanup fund for landfills, authorizes the Voluntary Evaluation Program (§17-17-54), and provides enforcement authorities.

The 1988 Amendments to the *Air and Water Pollution Control Act*, Miss. Code Ann, §§49-17-1 et seq., authorize response actions, provide for voluntary cleanup, and create the Pollution Emergency Response Fund (Miss. Code Ann. §49-17-68).

The *Brownfields Voluntary Cleanup Act* (S. 2989), effective July 1, 1998, provides for enforcement authority, long-term stewardship, voluntary cleanups, brownfields, and contaminated property transfer notice.

Program Organization and Funding

The Superfund Branch of the Office of Pollution Control's Hazardous Waste Division employs 12 FTE staff, although 14 are authorized. Legal support is provided by attorneys (less than one FTE) from the DEQ's legal staff and the Mississippi Attorney General's Office. Staff and administrative costs are funded through the State general fund (35 percent) and federal CORE/cooperative agreements (65 percent). The State's VCP program is funded through fees (35 percent) and federal CORE/cooperative agreements (65 percent).

Cleanup Activities

Cleanup activities are currently underway at 68 non-NPL sites, 24 of which are voluntary. During FY00, cleanup activities were completed at 22 non-NPL sites, six of which were voluntary. Since the start of Mississippi's program, cleanup activities have been completed at 143 non-NPL sites. Forty-two (42) of these sites were handled through the voluntary program.

Mississippi does not have an official priority list, but an inventory is maintained on the Internet. Priority is given to sites with releases of hazardous substances above target cleanup levels. The State considers the type of release that has occurred, the type of contaminants involved, and whether or not human health is directly impacted by the release.

Cleanup Funding

The Pollution Emergency Response Fund (PERF) was created in 1988. In 2001, $1.6M were paid out for non-NPL sites. A sum of $500K is budgeted to this fund annually, though more may be requested as needed. Monies for this fund are collected as penalties from polluters and are then allocated to the PERF. The PERF may be used for removals, emergency response, and remedial actions.

The Voluntary Evaluation Fund paid out $146K during FY00 to non-NPL sites. The fund may be used most significantly to cover the State's oversight function; however, it is also used for program administration, site investigation, studies and design, and long-term stewardship. All fund monies come from voluntary program user fees.

Mississippi's Brownfields Fund had a balance of $10K at the end of fiscal year 2000. Additions of $25K were made and $15K were paid out during the fiscal year. All monies for this fund come from user fees. The fund may be used for site investigation, studies and design, program administration, long-term stewardship, public participation, and State oversight.

The Uncontrolled Sites Fund had a balance of $14K at the end of FY00. Total monies paid out during the year were $324K. The fund receives its money from appropriations and may be used for site investigation, studies and design, program administration, long-term stewardship, and State oversight.

Cleanup Policies and Criteria

Mississippi has a flexible three-tiered risk-based cleanup approach. Tier one uses a target remediation goals table; tier two involves site-specific levels; and tier three uses site-specific risk assessment. When using land-use-based cleanup standards, it is assumed that the property may potentially be used for residential (unrestricted) purposes. If legal or equitable interest owners agree to a deed notice and a Restrictive Use Order or a Brownfield Agreement, "restricted" levels may be used. If levels are greater than restricted use, engineering controls are necessary, provided there is no source of continuing groundwater contamination. All groundwater is considered potential drinking water. Numerical risk goals are 10^{-6} for carcinogens and the Hazard Index is one for non-carcinogens. Mississippi also uses background level standards, water quality criteria, MCLs/MCLGs standards, and soil standards. The same standards apply under the Voluntary Evaluation Program.

Public Participation

State policies provide for public notice via direct mailings, a public comment period, and public meetings during the remediation process. The same public participation provisions apply under the Voluntary Evaluation Program. Public notice, provisions for public comment, and hearings and meetings are required by statute for the brownfields program.

Enforcement

Liability

Mississippi has strict, joint and several, and retroactive liability, but proportional liability may be applied where practicable. Cost recovery is authorized by State law. The State may impose civil penalties of $25K per day per violation. Punitive damages are not available.

Property Transfer

The Property Transfer Act (1993), Mississippi Code Ann. §89-1-501 to 523 requires written disclosure of the presence of hazardous or toxic waste when property is transferred with the aid of real estate brokers or salespersons.

Voluntary and Brownfields Program

Mississippi's Voluntary Evaluation Program was established by statute (§17-17-54) during fiscal year 1997. The program is open to anyone not subject to regulation under a federally mandated program. Polluted or potentially polluted uncontrolled sites are considered eligible properties for participation. The primary incentive for participation is expedited site review; a no further action letter may also be issued when appropriate measures have been taken and approved. Mississippi's brownfields program was established in 1998 with the Brownfields Voluntary Cleanup and Redevelopment Act (49-35-1 et seq.). All sites, except NPL, proposed NPL, and RCRA Corrective Action sites are eligible for the program. The State's administration and oversight of Brownfield projects is funded through fees of $2K paid up front and charged at $75 per hour. Voluntary program participation requires a $500 fee plus hourly charges; $2K is paid up front. Both the voluntary program and the brownfields program have the same cleanup level standards. To date, one brownfields site has been redeveloped.

Long-term Stewardship and Institutional Controls

Mississippi has a long-term stewardship program for State, voluntary, and brownfields sites. Seven employees (less than one FTE) have some involvement in the LTS program. Funding for LTS is not tracked, but it is estimated

that minimal funds are expended on the program. Mississippi maintains a database that tracks the use of institutional controls at sites. The results of the tracking system are made public through the online CERCLA/USS Site List. The program is too recent to determine how often sites will be reviewed. At five sites, institutional controls have been used as the sole remedy. The same LTS program is used for voluntary and brownfields sites, but not for the RCRA program.

NORTH CAROLINA

State Sites

Known and Suspected: 1,122
Identified as Needing Attention: 730
On Inventory or Priority List: 450

Statutory Authorities

The *Inactive Hazardous Sites Response Act of 1987*, N.C. Gen. Stat. §§130A-310 *et seq*. (1987, as amended 1989, 1991, 1994, 1995), authorizes the Inactive Hazardous Sites Cleanup Fund, provides authority to recover costs and order RPs to conduct assessments and cleanups, conduct long-term stewardship activities, and establishes the voluntary cleanup program and a priority list with requirements for filing notices on deeds.

The *Brownfields Property Reuse Act of 1997*, N.C. Gen. Stat. §§130A-310.30 through 310.40, establishes the State's brownfields program and contains provisions for citizen suits and long-term stewardship.

The *Solid and Hazardous Waste Management Act*, N.C. Gen. Stat. §130A-290 *et seq*., (1969, as amended 1973, 1975, 1977, 1979, 1981, 1983, 1985, 1987, 1989, and 1991), provides limited enforcement authorities, long term stewardship, and authorizes the Emergency Response Fund for emergency hazardous waste cleanup.

Program Organization and Funding

The Superfund Section of the Department of Environment and Natural Resources' (DENR) Division of Waste Management employs 48 FTE staff who work on sites in the NPL, non-NPL, brownfields, dry cleaners, and other programs. Legal support is provided by two attorneys from the North Carolina Attorney General's Office, but is funded primarily through the Superfund Section. Funding for administration and staff for the Superfund Section comes from federal grants/cooperative agreements (90 percent) and the State's general fund (10 percent). The State's VCP is funded through federal CORE/cooperative agreements.

Cleanup Activities

Cleanup activities are currently underway at approximately 64 non-NPL sites. During FY00, cleanups were completed at approximately 95 non-NPL sites. Since the start of North Carolina's program, cleanup activities have been completed at approximately 392 non-NPL sites. All of the cleanups underway and completed by the State are under the voluntary program.

Cleanup Funding

The Inactive Hazardous Sites Cleanup Fund (IHSCF) had a balance of $3.8M at the end of FY00. No funds were added during the fiscal year, but a total of $583K were paid out. The IHSCF originally received most of its money from appropriations, but no appropriations have been made to the fund since FY88-89. From FY89 through FY95, penalties were the most significant source of funding, because the IHSCF received RCRA penalty money when the Emergency Response Fund exceeded its $500K cap. However, a school board discovered a State law that earmarks all penalty money collected in a county for that county's education system and as a result, the only significant source of funding for the IHSCF is interest. Cost recoveries were a minor source of income during FY00. The IHSCF may be used for site investigation, studies and design, removals, emergency response, remedial actions, and long-term stewardship.

The Cost Share Trust Fund (CSTF) had a balance of $6.7M at the end of FY00. During the fiscal year, $4.7M were encumbered for NPL and non-NPL sites. The CSTF is funded primarily through appropriations and interest, but cost recovery is a minor source of funding. The fund is authorized for CERCLA match, studies and design, operations and maintenance, removals, emergency response, remedial actions, and long-term stewardship.

Cleanup Policies and Criteria

Cleanup levels in North Carolina can be determined from look-up tables of pre-established chemical-specific standards or calculated for each contaminant by environmental media based on site-specific risk assessment. Background levels, water quality criteria, MCLs/MCLGs, groundwater standards, chemical-specific health-based standards, and land-use-based considerations are also used where appropriate. Determinations about land use are based on deed recordations and restrictions; if there is no deed restriction in place, it is assumed that a property can be used for residential purposes. Numerical risk goals are 10^{-6} for carcinogens and a Hazard Index of 1 for non-carcinogens. Cleanup standards under the voluntary cleanup program are identical to those under the State cleanup program.

Public Participation

By law, North Carolina requires that public notice, opportunity for public comment, and hearings/meetings be provided for cleanup decisions at sites under State or voluntary cleanup action. Stakeholder committees are often established with community leaders, particularly church leaders, through an unfunded program to further involve the public in cleanup activities.

Enforcement

Liability

North Carolina has strict, joint and several, and retroactive liability. Under the *Inactive Hazardous Sites Response Act*, the Secretary of DENR must seek voluntary action by RPs before issuing orders or spending State funds. However, the State has authority to issue orders for cleanup, order monitoring and assessment, and seek injunctions to conduct assessments and correct imminent hazards. The State can require civil penalties of up to $25K per day for hazardous waste violations but cannot impose punitive damages. DENR has chosen to dedicate its limited resources to facilitating voluntary cleanups instead of pursuing enforcement and litigation.

Property Transfer

Property owners must register a notice of on-site contamination with the grantor index in the deeds office when requested to do so by the State. At the next property transfer, the notice will appear on the deed. Also, under N.C. Gen. Stat. Chapter 47E Article 1, sellers of residential property are required to disclose the presence of hazardous or toxic materials before transfer. The State maintains a database of known and listed sites.

Voluntary and Brownfields Programs

In 1987, the North Carolina legislature included voluntary cleanup provisions in the *Inactive Hazardous Response Act*. In 1995, in order to accommodate the fluctuating volume of voluntary cleanups, the State privatized the oversight function through the use of registered environmental consultants. DENR approves private contractors who program participants must pay to oversee cleanup activities and certify the site as clean. Although there is no fee for participation in the program, when voluntary sites are certified as clean, program participants may purchase a no further action letter from DENR for $500. Any person or site is eligible to participate except those being regulated under other programs. Remedial action costs for volunteers are capped at $3M.

In 1997, North Carolina passed the *Brownfields Property Reuse Act*, which establishes a brownfields program independent of the voluntary cleanup program. The brownfields program is open to non-responsible parties who are interested in buying or selling contaminated property. The program differs from the voluntary cleanup program in its focus on redevelopment, as opposed to remediation. Therefore, participants are only required to manage contamination to the extent necessary to adequately protect human health and the environment. Cleanup is not required if exposure pathways can be removed through alternate means. In cases where cleanup is not necessary, DENR may require participants to conduct long-term monitoring of the contamination or further research for the Department's use in pursuing cost recovery actions against RPs. Participants pay a $2K application fee to cover DENR's costs of evaluating the site and negotiating a cleanup agreement. Once cleanup is complete, participants

have the option of purchasing a no further action letter for $500. A liability limitation is also available for participants who remediate on-site contamination prior to redevelopment. Increases in property taxes may also be postponed for program participants. To date, 55 sites have been included in the program; cleanup is underway at nine sites, two have been redeveloped and two more have commitments for reuse.

Long-term Stewardship and Institutional Controls

North Carolina has designated funds for long-term stewardship in the State, voluntary, and brownfields cleanup programs. The State includes monitoring, institutional controls, enforcement, and review as part of staff's regular duties. Currently there is no database in place to track institutional controls; however, restrictions should appear as a "red flag" on deeds. Groundwater use restrictions and deed restrictions are the primary institutional controls used by cleanup participants. The lack of institutional memory within DENR because of turnover rates and no centralized database creates a problem when managing institutional controls.

SOUTH CAROLINA

State Sites

Known and Suspected:	1,037
Identified as Needing Attention:	516
On Inventory or Priority List:	516

Statutory Authorities

The *Hazardous Waste Management Act*, South Carolina Code Ann. §44-56-10 *et seq.*, establishes general enforcement authority, a cleanup fund, and provisions governing contaminated property transfer. Article 7 of the statute establishes the brownfields and voluntary cleanup programs. Article 4 is the Dry Cleaning Facility Restoration Trust Fund. It provides authority for a cleanup fund and a priority list.

Program Organization and Funding

South Carolina's Superfund program is handled principally by the Department of Health and Environmental Control (DHEC), Bureau of Land and Waste Management, Division of Site Assessment and Remediation (DSAR). Between the DSAR and the DHEC, the State cleanup program employs a total of 54 FTEs; 58 are authorized. Legal support is provided by 1.5 FTE attorneys from the DHEC Office of General Counsel. Funding for program staff and administration comes from federal CORE/cooperative agreements (43 percent), the State cleanup fund (17 percent), cost recoveries (32 percent), and the State's general fund (8 percent). Oversight fees for work performed under a VCP contract provide most of the funding for the voluntary cleanup program. Some funding comes from the State General Fund (0.5 percent), the State Cleanup Fund (0.9 percent), and Federal CORE/cooperative agreements (4.2 percent).

Cleanup Activities

Cleanup activities are currently underway at 90 non-NPL sites, 34 of which are being handled through the voluntary cleanup program. During FY00, cleanup activities were completed at eight non-NPL sites; three of these were handled through the voluntary cleanup program. Since the start of the program, cleanups have been completed at approximately 50 non-NPL sites, 13 of which were handled through the voluntary program. The numbers reported by South Carolina may not correlate with those from earlier reports due to changes in the method of defining voluntary cleanup sites.

South Carolina has a prioritization system that considers human receptors and the potential for the receptors to be impacted by contamination.

Cleanup Funding

The Hazardous Waste Contingency Fund (HWCF) had an balance of $1.2M at the end of FY00. During the fiscal year, $2.7M were paid out for non-NPL sites. At the end of FY00, a total of $21.1M were obligated or encumbered: $600K for NPL sites and $20.5M for non-NPL sites. Additions during the fiscal year totaled $1.6M. The HWCF's only significant source of funding was waste fees. Cost recovery and user fees were minor sources. Authorized fund uses include site investigation, CERCLA match, studies and design, operations and maintenance, removals, emergency response, remedial actions, natural resource restoration, and program administration.

South Carolina had a balance of $0 in the appropriated funds account at the end of the fiscal year. During FY00, an appropriation of $100K was added to the fund and the same amount paid out, all for non-NPL sites. Authorized uses include site investigation, CERCLA match, studies and design, operations and maintenance, removals, emergency response, program administration, natural resource restoration, and remedial actions.

The Drycleaner Restoration Trust Fund had a balance of $3.8M at the end of the fiscal year. Approximately $500K were obligated for non-NPL sites. During FY00, $840K were added to the fund and $300K were paid out for non-NPL sites. The fund receives its money from taxes and user fees. Authorized uses include site investigation, studies and design, operations and maintenance, removals, emergency response, remedial actions, program administration, and natural resource restoration.

Cleanup Policies and Criteria

The State uses statutory authority and guidelines to establish cleanup standards. The State uses water quality criteria, MCLs/MCLGs, groundwater standards, soil standards, risk assessment standards for carcinogens and noncarcinogens, background levels, and land-use based considerations. Numerical risk goals are 10^{-6} for carcinogens and Hazard Index is one for noncarcinogens. Background level standards are used if greater than the numerical risk goals. Water quality criteria are based on AWQC and groundwater standards are based on MCL/MCLGs. South Carolina uses site-specific risk assessment or Region III RBC tables when it selects and applies cleanup standards or criteria at sites. To make land use determinations, DHEC looks at current land use, zoning, and development plans. If cleanup is less than residential standards, restrictive covenant is required. The voluntary program has the same cleanup standards.

Public Participation

The State has no formal public participation requirements at State-funded sites, but it follows the NCP and provides public notice, opportunities for public comment, and hearings/meetings on an ad hoc basis. Article 7 of the *Hazardous Waste Management Act* requires public notice, provisions for public comment, and hearings and meetings for the voluntary cleanup and brownfields programs.

Enforcement

Liability

The State uses strict, joint and several, and retroactive liability. The State may assess civil penalties of $25K per day and treble damages for failure to clean up a site as ordered.

Property Transfer

South Carolina does not have any law governing the transfer of contaminated properties. The State may apply a judicial lien.

Voluntary and Brownfields Programs

South Carolina's voluntary cleanup program, established in 1988, is a component of the hazardous substance cleanup program. All sites are eligible to participate with the exception of petroleum-only sites, NPL sites, and sites under enforcement action. Incentives for participation include covenants not to sue for successful completion of work and liability protection for non-RPs. State oversight costs are funded by participants under the VCP contract. RPs must pay actual costs, but non-RPs' fees are negotiable.

The State's brownfields program is included in the voluntary cleanup program guidance, and is the non-RP portion of the VCP. Criteria for inclusion are the same as those under the voluntary program. Cleanup standards are also identical to those of the voluntary program, although non-RPs are not necessarily required to remediate sites to the extent that RPs must. Incentives for participation in the program include a covenant not to sue for successful completion of work and contribution protection for non-RPs. Cleanup is currently underway at six sites. Nine sites have been or are in the process of being redeveloped. Twenty-seven (27) brownfields sites have been identified.

Long-term Stewardship and Institutional Controls

South Carolina has a long-term stewardship program for its State, voluntary, brownfields, and RCRA programs. No employees and zero funding are specifically designated for the LTS program. The State maintains a database that tracks institutional controls at cleanup sites. The primary and secondary users of the database are Project Managers and supervisors and it is not available to the public. Sites where ICs have been implemented are reviewed every five years and more frequently, depending on site-specific conditions. These reviews are made available to the public. The same LTS program is used for the voluntary, brownfields, and RCRA programs.

TENNESSEE

State Sites

Known and Suspected:	1,501
Identified as Needing Attention:	210
On Inventory or Priority List:	124

Statutory Authorities

The *Hazardous Waste Management Act of 1983* (as amended 1995), Part II, Tenn. Code Ann. §68-212-201 *et seq*., establishes a State cleanup program, authorizes the Hazardous Waste Remedial Action Fund, provides authority to take or compel remedial actions, establishes a priority list, and requires a deed notice for any listed site. It also provides for the long-term stewardship program, voluntary cleanups, and brownfields. A voluntary cleanup oversight and assistance program and a dry cleaner environmental response program were added by amendment in 1994. The Dry Cleaner Environmental Response Fund was established by legislation effective June 13,1995, and rules put into place on October 15, 1997.

Program Organization and Funding

The Tennessee Department of Environment and Conservation's (DEC's) Division of Superfund employs 56 FTE staff of 70 that are currently authorized. Approximately two FTE attorneys from DEC's Office of General Counsel and the State Attorney General's office provide legal support. Staff and administrative costs are funded by the State general fund, the State cleanup fund, and federal CORE/cooperative agreements. Approximately 40 percent of staff costs are funded with federal monies, while the remaining funding comes from the State General Fund or Cleanup Fund. The voluntary cleanup program also receives funds from these three sources.

Cleanup Activities

Cleanup activities are currently underway at 226 non-NPL sites, 81 of which are voluntary. During FY00, cleanup activities were completed at 32 non-NPL sites, 20 of which were voluntary. Since the start of Tennessee's program, cleanup activities have been completed at 137 non-NPL sites, 29 of which were handled through the voluntary program.

To qualify for listing on the priority list, a site must be inactive and have a hazardous substance present, and there must be a release or potential for release. Sites may be added to the priority list voluntarily or by State promulgation. In addition to the priority list, Tennessee maintains both a State inventory and a registry, but sites added voluntarily to the priority list do not automatically appear on either of these two lists; most sites promulgated to the priority list by the State also appear in the inventory or the registry. The inventory, which is analogous to the CERCLIS list, includes 1501 inactive sites where a hazardous substance may be present and may have been released into the environment.

Cleanup Funding

The Hazardous Waste Remedial Action Fund (HWRAF) had a balance of $7.4M at the end of FY00. During the fiscal year, $8.9M were added to the fund and $10.5M were paid out. The HWRAF may be used for program administration, site investigation, emergency response, removals, remedial actions, studies and design, operation and maintenance, CERCLA match, long-term stewardship, and grants to hazardous waste generators. Significant sources of funding include waste fees and cooperative agreements with the Department of Defense and the Environmental Protection Agency which pay into the State fund as expenses are incurred. Interest, penalties, appropriations, cost recovery, transfers, and voluntary program user fees are minor funding sources.

The Dry Cleaner Environmental Response Fund had a balance of $4.7M at the end of FY00. During the fiscal year, $1.6M were added to the fund, $301K were encumbered for future use, and $854K were paid out. Authorized uses of fund monies include program administration, site investigation, removals, remedial actions, studies and design, long-term stewardship, and operation and maintenance. A solvent surcharge paid by dry cleaners and suppliers as an annual business registration fee is the only significant source of funding. While the statute allows for funding to be appropriated to the fund, this is not happening currently. Minor sources of funding include penalties and interest.

Cleanup Policies and Criteria

Tennessee uses risk assessment, background levels, water quality criteria, MCLs/MCLGs, and chemical-specific health-based standards for cleanups. Soil standards are under development; groundwater standards are not developed except MCLs for general use. Risk goals are 10^{-5} for carcinogens and a Hazard Index of 1 for noncarcinogenic compounds.

When selecting and applying cleanup standards or criteria, the State determines if a standard exists for the substance(s) in question or uses an ARAR if there is not one. If neither apply, then the State uses risk assessment. When determining future site-specific land use, Tennessee considers the most likely use and then establishes the appropriate standard. Cleanup criteria under the voluntary program are identical to those under the hazardous substance cleanup program.

Public Participation

Tennessee's public participation requirements include public notice provisions, opportunities for public comment, and public meetings. In the voluntary cleanup program, public notice, public comment, and hearings and meetings occur on an ad hoc basis.

Enforcement

Liability

The State statute establishes proportional and retroactive liability. DEC is responsible for apportioning liability. The Commissioner of DEC is authorized to issue orders for site information, access, and remedial response, to assess civil penalties up to $10K per day per violation or failure to pay fees or file reports, and to impose punitive damages of up to 150 percent of the State's costs.

Property Transfer

Tenn. Code Ann. §68-212-209 requires disclosure on the property deed or with the recorder of deeds that listed sites were or are being used for disposal of hazardous substances. The State maintains a database of properties known to have on-site contamination. The State may apply a lien when State funds are expended.

Voluntary and Brownfields Programs

In 1994, the legislature established a voluntary cleanup program open to all inactive hazardous substance sites not listed on the NPL. Any willing and able party is eligible to participate. Incentives for participation include a no further action letter and exemption from liens, deed notices, public hearings, and placement on the State's priority list. The State's services are funded through a $5K participation fee and full reimbursement by liable parties of State oversight costs associated with site investigation and cleanup. The $5K fee is deposited into the State's cleanup program and is disbursed as needed. It is not tied to the specific site for which it is paid.

There is no formal brownfields program, but the State is working with businesses and local governments to bring brownfields sites into the voluntary cleanup program.

Long-term Stewardship and Institutional Controls

Tennessee has a long-term stewardship program for the State, voluntary, and RCRA sites. The number of employees whose work includes LTS programs is unknown and funding for LTS is not tracked separately from other cleanup funds. Tennessee does not have a tracking system for institutional controls and cannot estimate the number of sites at which specific ICs are implemented. The State reviews sites on a site-specific basis, but at least every five years. The results of the reviews are available to the public. The same LTS program is used for voluntary cleanup sites.

REGION 5

Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

ILLINOIS

State Sites

Known and Suspected:	5,000
Identified as Needing Attention:	159
On Inventory or Priority List:	70

Statutory Authorities

The *Environmental Protection Act*, Title XVII, 415 ILCS 5/58, establishes the Hazardous Waste Fund for State site cleanups and provides for enforcement, contaminated property transfer, brownfields assistance, and voluntary cleanups. The *Proportionate Share Liability Act*, 35 IAC 741 as well as the *Groundwater Protection Act*, 415 ILCS 55/, provide enforcement authority.

The *Responsible Property Transfer Act*, 765 ILCS 90, mandates that a seller disclose information regarding contamination on sites and provides enforcement authority. The *Brownfields Redevelopment Grant Program*, 35 IAC 885, sets out the rules governing grants for brownfields redevelopment. Illinois also has a *Drycleaner Environmental Response Trust Fund Act,* 415 ILCS 135/, which has been codified with the Environmental Protection Act, authorizes the Drycleaner Environmental Response Trust Fund.

Program Organization and Funding

The Illinois Environmental Protection Agency, Bureau of Land, Division of Remedial Management administers the State cleanup program. The Division of Remedial Management has 119 FTE staff, the number authorized in FY00. The Division of Legal Counsel provides legal support for the program with seven FTE attorneys. The Hazardous Waste fund provides 42 percent of funding for the staff and administration the State general fund provides 24 percent and Federal CORE/Cooperative Agreements provide 34 percent.

The Voluntary Site Remediation Unit within the Division of Remedial Management administers the voluntary cleanup program in Illinois. The Hazardous Waste Fund provides 100 percent of the funding for staff and administration of the Voluntary Site Remediation Unit.

Cleanup Activities

Cleanup activities are underway at 616 non-NPL sites with 187 cleanup activities completed during FY00. Since the beginning of the program cleanup activities have been completed at 818 sites. Of the total number of cleanup activities underway, 564 are at voluntary sites. In FY00, 171 voluntary cleanup activities were completed, 707 voluntary cleanup activities completed since the beginning of the program.

Illinois no longer maintains a formal State priority list; rather, Illinois EPA currently determines priority for sites on an annual basis.

Cleanup Funding

The Hazardous Waste Fund had a balance of $10.7M at the end of FY00. Funds paid out during FY00 totaled $12.9M with $724K spent on NPL sites, $12.2M spent on non-NPL sites. The total amount obligated or encumbered during at the end of FY00 was $11.9M with $10.5M obligated to non-NPL sites and $1.3M obligated to NPL sites. Additions to the Fund during FY00 totaled $27M. Significant sources of this Fund are bonds, cost recovery, and transfers. Penalties, waste fees, and user fees were minor contributions. The State uses the Fund for site investigation, CERCLA matches, studies and design, operations and maintenance, removals, emergency response, remedial actions, natural resource restoration, and program administration.

The balance for the Environmental Protection Fund was $13M at the end of FY00. Total funds paid out during the past fiscal year were $4.5M with $1.7M allocated to NPL sites and $2.7M allocated to non-NPL sites. The total

amount obligated or encumbered at the end of FY00 was $1.1M, all of which was obligated to NPL sites. Additions to the fund during FY00 totaled $4.2M. federal funds were the only source for this Fund which, is used for site investigation, studies and design, operations and maintenance, removals, remedial actions, and program administration.

Illinois also has the Drycleaner Environmental Trust Fund that is administered by the Drycleaner Environmental Response Trust Fund Council. Primary contributions to the Fund include taxes and license fees for drycleaners with interest contributing a minor amount of funding. Authorized sources for the fund include remedial actions and site investigation.

Cleanup Policies and Criteria

The State employs risk assessment carcinogens (10^{-6}), risk assessment non-carcinogens (Hazard Index of one), background levels, water quality criteria, MCLs/MCLGs, groundwater standards, soil objectives, chemical specific health-based objectives, and land-use based objectives in conjunction with risk assessments to determine cleanup levels for the State cleanup program, cleanups under the voluntary cleanup program, RCRA corrective actions, and LUST cleanups. Illinois employs the Tiered Approach to Corrective Action Objectives (TACO). The first tier employs traditional USEPA Soil Screening Limits as State promulgated soil objectives and MCLs. The second tier provides for site-specific data to develop adjusted objectives while the third tier consists of risk-based standards. Cleanup objectives are based on relative risks to human health using a 10^{-6} risk goal. TACO is not an enforceable standard, however both the State cleanup program and the voluntary cleanup program utilize the objectives that are developed using this rule, as well as the RCRA and LUST programs.

The State uses environmental land use restrictions, local ordinances, highway agreements, and no further remediation letters as institutional controls to ensure that specified land uses are maintained in the future.

Public Participation

Illinois does require public participation in the cleanup process but may conduct meeting and hearings on an ad hoc basis for both the State cleanup program and the voluntary cleanup program. Under the State cleanup program, Illinois will attempt to ensure public involvement by providing notice to nearby citizens on an individual basis, for example by going door to door. The voluntary cleanup program does utilize a stakeholder involvement guide that is similar to the ASTM stakeholder involvement guide. The guide may be found on the IEPA website.

Enforcement

Liability

Liability standards are strict, joint and several, and retroactive. Proportional liability is used at some sites. The State may impose civil penalties up to $50K per day for the first violation and $10K per day for each subsequent day of violation. Treble damages may also be imposed.

Property Transfer

The *Responsible Property Transfer Act* mandates environmental disclosures by sellers on the property deed or with the recorder of deeds stating that the site was or is contaminated with hazardous substances. The State's residential property transfer law contains requirements for disclosure of the presence of all environmental hazards prior to transfer of property containing one to four residential units. The State may apply a lien when State funds are expended.

Voluntary and Brownfields Programs

The *Illinois Environmental Protection Act* established a voluntary cleanup program in 1986. Sites with a release of a hazardous substance or petroleum into soil or groundwater are eligible for the program, except for NPL, RCRA, and LUST sites, landfills subject to closure, or sites with other enforcement proceedings pending. The State issues a no further remediation letter stating the site is protective of human health and the environment and no further

remediation is necessary to the party who performs the cleanup. The principal incentive to participate in the program is the successful transfer of property. The State charges user fees on an hourly basis which cover, among other things, plan reviews, field oversight, and lab work.

The State brownfields program was established under *Environmental Protection Act*, Title XVII, 415 ILCS 5/58.13. Any site that is eligible for the voluntary program may be considered a brownfields site as well. Illinois offers tax credits and State Brownfields Grants as incentives to participate in the program.

Long-term Stewardship and Institutional Controls

Illinois has long-term stewardship programs under both the State cleanup program and the voluntary cleanup program, which include institutional controls, monitoring and enforcing the State cleanup program, and review and reevaluation of sites. IEPA receives money from the Hazardous Waste Fund to conduct post-closure care activities for site cleanup under the State cleanup program sincerely 1980s. However, there is no mandate or liability commitment on the part of the State to conduct long-term stewardship activities if funds were no longer allocated for this purpose. Institutional controls and engineering barriers were provided for in 1995 for the voluntary cleanup program on a site by site basis, whereby the site owner would receive a no further action letter listing all of the institutional controls used at the site. Illinois is just beginning to conduct inspections of barriers and institutional controls at voluntary cleanup sites. Illinois tracks institutional controls at cleanup sites coupled with future inspections of the institutional controls for the protection of the public as its primary purpose.

INDIANA

State Sites

Known and Suspected: 200
Identified as Needing Attention: 61
On Inventory or Priority List: 61

Statutory Authorities

The *Hazardous Substances Response Trust Fund*, IC §13-25-4 (1986, as amended 1987, 1988, 1989, and 1991), establishes a State cleanup fund and authorizes enforcement actions, and recovery of NRDs. The *Responsible Property Transfer Law*, IC §13-25-3 (1990), establishes disclosure requirements for contaminated property transfers.

The voluntary cleanup program in Indiana is established by the *Voluntary Remediation of Hazardous Substances and Petroleum*, IC §13-25-5 (1993), and the *Grants Brownfield Tax Credit* §IC 6-3.1-23 (2002) provides for tax credits of up to 10 percent of the cost of qualified investment in brownfields. The tax credit became effective January 1, 2002.

The *Environmental Legal Actions Act*, IC §13-30-9 (1997), establishes citizen suit authority.

Program Organization and Funding

The Office of Land Quality, Remediation and Services Branch in the Indiana Department of Environmental Management (IDEM), employs 29 FTE staff, with 11 FTE in the State cleanup section, 12 FTE in the voluntary remediation program, three FTE working on brownfields, and three FTE working on site investigations. A total of 31 FTE are authorized. Two FTE attorneys in the Office of Legal Counsel provide legal support. Staffing and administration for the State cleanup program is fully funded by the State cleanup fund. Staffing and administration for the Voluntary Cleanup Program is fully funded by fees gathered for the cleanups.

Cleanup Activities

Cleanup activities are currently underway at 256 sites in Indiana. In FY00, cleanup activities were completed at 15 sites with cleanups completed at 61 sites total since the beginning of the program. Of the 256 sites where cleanup activities are currently underway 223 are at voluntary sites. During FY00, voluntary cleanup activities were completed at 14 sites with cleanup activities completed at a total of 54 voluntary sites since the beginning of the voluntary program.

The State's priority list is composed of sites that have been evaluated using the Indiana Scoring Model, which examines sources, pathways, and targets.

Cleanup Funding

At the end of FY00, the Hazardous Substance Response Trust Fund had a balance of $19.4M. The State reported fund obligations of $16.1M with $14.3M obligated for NPL sites and $1.8M obligated for non-NPL sites. Funds paid out totaled $8.3M with $703K spent on NPL sites and $7.6M spent on non-NPL sites. Indiana also reported fund additions of $3.5M for the fiscal year. Interest and waste fees are significant sources of funding for the Fund with cost recovery providing a minor source of funding. The authorized uses of the Fund are site investigation, CERCLA match, studies and design, operation and maintenance, removals, emergency response, remedial actions, program administration and natural resource restoration.

The Environmental Management Special Fund had a balance of $21.9M with $16.5M obligated or encumbered in FY00. The total amount of monies obligated was for non-NPL sites. Funds paid out totaled $4.2M, all of which were for non-NPL sites, with a total of $6.8M added to the fund during FY00. The Fund receives all of its monies

from transfers and is authorized for site investigation, CERCLA match, studies and design, operation and maintenance, removals, emergency response, remedial actions, and program administration.

Cleanup Policies and Criteria

Indiana employs water quality criteria, background levels, MCLs/MCLGs, groundwater standards, soil standards, chemical-specific health-based standards and land-use-based standards in conjunction with risk assessments for carcinogens and non-carcinogens to determine cleanup levels. A 10^{-5} risk level is used for risk assessment carcinogens and a Hazard Index of one is used for non-carcinogens. The same levels and criteria are used for the voluntary cleanup sites. Risk based corrective action is available at all sites.

Land use is considered in determining cleanup levels for State and voluntary cleanups. Future land uses are categorized as either residential or nonresidential with attention also given to future groundwater use. A party must control the site to select nonresidential use. Indiana uses environmental notices recorded on deeds as an institutional control for maintaining specified land uses.

Public Participation

The State has statutory requirements for public notice, public comment, and hearings and meetings for both State and voluntary cleanups.

Enforcement

Liability

Indiana imposes strict, proportional, where appropriate, and joint and several liability standards, and imposes retroactive liability. The State may impose civil penalties up to $25K per day per violation. Triple punitive damages may be imposed.

Property Transfer

Indiana requires the seller to disclose the presence of hazardous substances on the site before transfer, if a site has underground storage tanks, is subject to CERCLA Title III reporting, or is on the CERCLIS list. The State's residential property transfer law contains requirements for disclosure of environmental hazards prior to transfer of certain residential properties. Additionally, the State requires disclosure on the deed or with the recorder of deeds that the site was or is contaminated with hazardous substances.

Voluntary and Brownfields Programs

The State's voluntary cleanup program was established in 1993 (IC §13-25-5). Any party is eligible to participate, with the exception of sites that pose an imminent threat or are currently subject to enforcement proceedings. The IDEM issues a certificate of completion, and the Governor's Office issues a covenant not to sue as incentives for participation in the program. The program is funded through application fees of $1K per site and through applicant agreements to pay additional State costs.

Indiana has a brownfields program that covers properties that are abandoned, inactive or underutilized on which expansion or redevelopment is complicated due to actual or perceived environmental contamination. The brownfields program can include sites from the State cleanup program. Program incentives include Brownfield Environmental assessments at no charge, grants and loans for assessment and cleanup, and letters to address liability issues at Brownfields sites. The program includes 175 sites, and cleanups are underway at 20 of these sites. Reuse or redevelopment commitments have been made at 140 sites and 15 sites have been redeveloped.

Long-term Stewardship and Institutional Controls

Indiana has a long-term stewardship program for the voluntary cleanup program that includes institutional controls and site monitoring. The State maintains a database that tracks the use of institutional controls, which is available to the public through their web page. The database is used to monitor sites that employ institutional controls as well as to ensure compliance with covenant not to sue terms. The sites where institutional controls have been implemented are reviewed annually and the results of the reviews are made available to the public.

MICHIGAN

State Sites

Known and Suspected:	N/A
Identified as Needing Attention:	N/A
On Inventory or Priority List:	2,890

Statutory Authorities

Part 201 (Environmental Remediation) of the *Natural Resources and Environmental Protection Act*, 1994 PA 451, as amended, (NREPA), regulates sites of environmental contamination in Michigan. The NREPA also includes other Michigan environmental laws including those that regulate water quality, leaking underground storage tanks, solid and hazardous waste, and air quality. The Environmental Response Division (ERD) administers the Part 201 cleanup program. Part 201 establishes a cleanup fund, brownfield provisions, a site list, liability, enforcement authority and penalties, land-use based cleanup criteria, and citizen suit provisions.

In addition to the *Natural Resources and Environmental Protection Act*, Michigan has adopted three brownfields redevelopment provisions. The first, *The Brownfields Redevelopment Act,* Public Act 381 (1996), as amended, provides tax increment financing for the redevelopment of brownfields, which includes blighted and functionally obsolete properties. The *Single Business Tax Amendment,* Public Act 143 (2000) provides a tax credit for brownfields redevelopment and the third provision, the *Obsolete Property Rehabilitation Act*, Public Act 146 (2000) provides tax abatement for brownfields redevelopment.

Program Organization and Funding

The Environmental Response Division of the Department of Environmental Quality (DEQ) administers the hazardous substance cleanup program. The division employs 236 FTE staff with a total of 257 FTE authorized. Five (5) FTE attorneys from the Department of the Attorney General, Natural Resources and Environmental Quality Divisions provide legal support for the program. Funding for staff and administration for both the State and the brownfields programs is provided by the State general fund (58.6 percent), the State cleanup fund (28.9 percent), and federal grants (11.5 percent).

Cleanup Activities

Cleanup activities are currently underway at 575 sites, with 119 cleanups completed in FY00. Cleanup activities at 382 sites have been completed since the beginning of the program. Parties are not required to notify the State when a self-implemented cleanup is conducted. Therefore information is not available on how many self-implemented cleanups have been completed. Michigan indicated that 4,699 Baseline Environmental Assessments (BEAs) have been submitted to the DEQ (see explanation of BEAs under Liability).

Michigan employs a scoring system based on known or suspected releases, contaminated concentrations in excess of Michigan generic residential cleanup criteria, and observed releases. The minimum criteria for listing a site on Michigan's state priority list is that the site must contain environmental contamination as defined in Part 201, Environmental Remediation, of the *Natural Resources and Environmental Protection Act* (1994 PA 451, as amended).

Cleanup Funding

The Environmental Protection Bond (EPB) had a fund balance of $68.4M at the end of FY00. During the year, a total of $46.6M was obligated or encumbered with $8.5M obligated or encumbered for NPL sites and $38M for non-NPL sites. Monies paid out from the fund in FY00 totaled $28.8M with $3.4M for NPL sites and $25.4M for non-NPL sites paid out. There were no additions to the fund in FY00. The sole source of funding is cost recovery.

The EPB can be used for site investigation, CERCLA match, studies and design, operations and maintenance, removals, grants to local government, remedial actions, program administration and demolition.

The General Fund (GF) had a fund balance of $13.2M during FY00 with a total of $12.6M in additions. The total amount obligated or encumbered at the end of the fiscal year was $9.6M of which $800K was for NPL sites and $8.7M was for non-NPL sites. The Fund paid out a total of $10.3M of which $610K was for NPL sites and $9.7M for non-NPL sites. State appropriations are the significant funding source with authorized uses including site investigation, CERCLA match, studies and design, operations and maintenance, removals, emergency response, remedial actions, and program administration.

The Cleanup and Redevelopment Fund (CRF) had a balance of $23.3M at the end of FY00 with $3.2M in additions. The total amount obligated or encumbered at the end of the fiscal year was $11.8M with $1M for NPL sites and $10.8M for non-NPL sites. Monies paid out from the fund in past fiscal year totaled $3.6M with $1.5M for NPL and $2.1M for non-NPL. State appropriations are the major source of the Fund. The State uses the CRF for site investigation, CERCLA match, studies and design, operations and maintenance, removals, emergency response, remedial actions, and program administration.

The fourth fund, the Clean Michigan Fund had $28.3M balance at the end of FY00 with no additions to the fund in the past fiscal year. The total amount obligated or encumbered, which was only used for non-NPL, was $15.8M. Monies paid out of the fund in FY00, again only for non-NPL sites, totaled $3.5M. The significant source of funding is bonds. Authorized uses of the Fund are site investigation, studies and design, operations and maintenance, removals, grants to local governments, remedial actions, program administration, and demolition.

Cleanup Policies and Criteria

Part 201 authorizes the DEQ to establish cleanup standards in land-use-based categories. Exposure assumptions used to calculate cleanup criteria account for the differences in potential exposure to contamination that result from differences in land use. The categories for cleanup criteria are residential, commercial, industrial, and recreational. Additional categories (designated "limited" categories), are also provided for, as well as the potential for site-specific risk assessment. The person cleaning up the site is able to select the category of cleanup standard, provided that their remedial action plan documents that the cleanup criteria category is consistent with the zoning at the facility. Flexibility has been added to requirements that aquifers be remedied in all cases. The DEQ may waive the mandatory aquifer cleanup requirement on a site-by-site basis, using established criteria. The need for soil cleanup will be determined by considering only the vulnerability of the aquifer or aquifers at the site in question. To assure that the off-site movement of contaminated soil does not result in problems at other locations, provisions are included to control the relocation of contaminated soil.

The categorical cleanup standards require that land use and/or resource use restrictions be imposed at sites that are not cleaned up to residential criteria. Land use and resource use restrictions can be accomplished through a number of mechanisms—a "notice of environmental remediation" for sites that require no restrictions other than the category of land use; or through restrictive covenants or institutional controls (e.g., local ordinances to control water well construction) for sites that require more control. Notice of any land use or resource use restrictions must be given to the local unit of government and to subsequent purchasers of the property.

Public Participation

Public participation is required for State-funded remedies, in cases where there is significant public interest, if the site will be in one of the "limited" categories discussed in the cleanup standards section above, or if the provisions are applied to waive or modify aquifer cleanup requirements. Additionally, the DEQ must provide notice to a local unit of government when a remedial investigation has been completed at a facility where State funds will be spent to implement a remedial action or at a facility where there is significant public interest.

Enforcement

Liability

Under Michigan law, you are *not* liable for the cost of cleanup actions if: you have not done anything to cause a release of a hazardous substance; and you own or are an operator of contaminated property, and you acquired that property before June 5, 1995; or you purchase or begin operation at a contaminated property after June 5, 1995, and you were not responsible for the release that caused the contamination, and you conduct an adequate Baseline Environmental Assessment (BEA) of your property prior to or no later than 45 days after purchase or start of operation. The purpose of a BEA is to gather sufficient information about the property being transferred to allow a new release to be distinguished from existing contamination. Part 201 allows a person to petition the Department of Environmental Quality (DEQ) for a determination that their BEA satisfies the requirements for the liability exemption.

Non-liable owners of contaminated property have Part 201, Section 7a "due care" requirements, but are not responsible for complete cleanup of existing contamination. The "due care" required by this section includes taking measures necessary to prevent exacerbation of existing contamination, assuring that the use of the property protects the public health and safety, and taking reasonable precautions against acts of a third party. To maintain liability protection, the owner or operator must disclose the results of the BEA to a person who will become an owner or operator. A person who is liable under Part 201 is jointly and severally liable for lawfully incurred response activity costs to cleanup a site (to the State or any other person) and natural resource damages.

Part 201 provides for civil penalties of not more than $1K/day, $10K and $25K/day depending on the violation. A $1K/day fine may be imposed for failure to diligently pursue response activities upon written request by the department. A civil fine of $10K/day may be imposed for a violation of Part 201 or a rule promulgated under Part 201. A $25K/day fine may be imposed for a violation of certain judicial orders or administrative orders issued under Part 201and may also be subject to treble damages.

Property Transfer

In addition to the requirement to disclose the results of the BEA to a person who will become an owner or operator, Part 201 also requires that a person who knows or is on notice through a recorded instrument that their property is contaminated must provide written notice to the purchaser (or transferee) and disclose the general nature and extent of the contamination.

A person shall not transfer an interest in property without disclosing any land or resource use restrictions that apply to the property as part of a remedial action that has been or is being implemented under Part 201.

Voluntary and Brownfields Programs

The Michigan voluntary cleanup program was established in 1994 (Public Act 451, 1994, Part 201). All sites and potentially responsible parties are eligible for the program except those parties that are subject to an Administrative Order or a Judicial Decree. Incentives for the program include exemption from liability for existing contamination by performing a Baseline Environmental Assessment (BEA) and submitting it to the DEQ. Financial incentives for the program include grants, loans, tax increment financing, tax credits, and tax abatements. The State charges a fee of $750 that includes reviewing the BEA for adequacy and sending a written opinion to the submitter.

The State brownfields program was established in 1994 (Public Act 451 of 1994, Part 201). All properties that are contaminated above residential standards that have redevelopment potential are eligible for participation in the program. Cleanup is currently underway at 464 sites. Incentives for the program include grants, loans, State-conducted brownfield cleanups, tax increment financing, State business tax credits, and tax abatements.

Long-term Stewardship and Institutional Controls

Michigan has a long-term stewardship program for the State cleanup, brownfields, and RCRA programs. Long-term stewardship elements that are included in these programs are monitoring, institutional controls, and enforcement. Although long-term stewardship activities are not specifically or separately funded in Michigan they are part of the responsibility of the field staff. Michigan does not have a database that tracks institutional controls. The State's new program database however is designed to track some long-term stewardship information. The database is not yet functional in this area.

MINNESOTA

State Sites

Known and Suspected:	3,000
Identified as Needing Attention:	100
On Inventory or Priority List:	84

Statutory Authorities

The *Minnesota Environmental Response and Liability Act* (MERLA), Minn. Stat. §§115B.01 - .24, .175-.178 (1983, as amended 1984, 1985, 1986, 1987, 1990, 1992, 1994,1995, 1997, and 1998), establishes a State cleanup fund and provides for enforcement authorities, a State priority list, contaminated property transfer, long-term stewardship, brownfields, citizen suits, and voluntary cleanups. The *Hazardous Substance Injury Compensation Fund,* §§115B.25-.37, is available for victim compensation. The fund is also available for injury property damage compensation.

Program Organization and Funding

The Remediation Section Metro District of the Minnesota Pollution Control Agency administers the State cleanup program. This section has a total of 76 FTE staff of which 55 are employed in the State cleanup program (27 FTE are federal funded) and 21 FTE are employed in the Voluntary Investigation and Cleanup Programs. There are a total of 80.5 FTE authorized for the Remediation Section Metro District. Minnesota's Attorney General's Office provides legal support for the program with three FTE attorneys. The State program receives funding from the State Cleanup Fund (75 percent) and Federal CORE/Cooperative Agreements (25 percent). The Voluntary Investigation Program Receives Funding from Federal CORE/Cooperative Agreements (10 percent) and the State cleanup fund (90 percent), which is then reimbursed from fees paid by voluntary program participants. Minnesota's federal grants include a Defense Summary Memorandum of Agreement for federal facility cleanups.

Cleanup Activities

Minnesota currently has cleanup activities underway at 641 sites in both the State cleanup and voluntary programs. In the past fiscal year, 13 State cleanup sites were deleted from the priority list with 119 deleted since the start of the program. Cleanup has been completed at 264 sites since the beginning of the voluntary program and 676 liability assurances have been issued.

Minnesota maintains a priority list based on a hazard ranking system, where relative risk or danger to public health or welfare of the environment is considered.

Cleanup Funding

The MERLA fund balance was $12.8M at the end of FY00. Total monies paid out during the fiscal year amounted to $7.9M for non-NPL sites. Approximately $8.8M was added to the Fund in FY00. The major sources of MERLA funds are transfers, user fees, waste fees, and taxes, while minor sources are interest, cost recovery and penalties. The MERLA fund may be used for site investigation, CERCLA match, studies and design, operations and maintenance, removals, victim compensation, emergency response, grants to local government, remedial actions, program administration, natural resource restoration, and long-term stewardship.

Cleanup Policies and Criteria

Minnesota uses a three-tiered system to conduct site-specific, media-based exposure pathway assessments to select and apply cleanup standards for sites. The system employs risk-based "screening" numbers, which are intended

to be used as thresholds to determine whether future investigation and/or cleanup is appropriate. However, actual cleanup levels are determined after various risk parameters have been evaluated. The risk parameters include risk assessment carcinogens, risk assessment non-carcinogens, background levels, surface water quality standards, State drinking water standards, soil standards, chemical specific health-based standards, land-use-based/RBCA and MCL/MCLGs in conjunction with risk assessments. A 10^{-5} risk level is used for risk assessment carcinogens, and a hazard quotient of 0.2 is used for non-carcinogens. The same standards apply to State voluntary cleanups.

State law requires consideration of future land use and development when determining cleanup levels. (Chapter 115B.17(2a)). A formal guidance document (Guidance on Incorporation of Planned Property Use into Site Decisions) identifies appropriate institutional controls for specific sites with residual contamination.

Public Participation

Minnesota law provides for public comment under the State cleanup program (Chapter 115B.17(2b)). Public notice, hearings and meetings for cleanups conducted under the State cleanup program proceed on a policy basis. Provision for public comment, public notice, hearings and meetings for cleanups under the voluntary cleanup program are all on an ad hoc/policy basis.

Enforcement

Liability

The State uses strict, joint and several liability standards, as appropriate, and may impose liability retroactively. The State may impose civil penalties up to $20K per day per violation. No punitive damages may be imposed.

Property Transfer

Under Minn. Stat. Ch. 155B.17, the State requires disclosure in the deed when a property is contaminated with hazardous substances. PCA is also required to provide assistance to those requesting help in determining whether a property has been the site of a release or potential release. (Chapter 115B.17(14)). As a practical offshoot of this requirement, Minnesota has developed a "file review process," which, for a fee, includes a search of various lists and databases. Minnesota may apply a lien when State funds are expended.

Voluntary and Brownfields Programs

Established in 1988 by statute, the State's Voluntary Investigation and Cleanup Program (VIC) (Minn. Stat. Ch. 115B.17, Subd. 14; Ch. 115B.175 - .178), allows any party willing/able to conduct the investigation, cleanup, and development of the site in a timely manner that can also reimburse MPCA for oversight costs to participate in the program. Incentives for participation in the program include cleanup liability assurances and financial and technical assistance by both PCA and other State agencies such as the Department of Trade and Economic Development. Minnesota provides technical assistance, review, and oversight of cleanups for a fee of approximately $90 per hour. Voluntary cleanup oversight costs per site, for the State, range from $2K– $10K. The State does not have a brownfields program.

Long-term Stewardship and Institutional Controls

Although Minnesota does not have a separate long-term stewardship program, the State employs a variety of long-term stewardship institutional controls at State cleanup sites, VIC sites, brownfields, and RCRA program sites. Long-term stewardship in Minnesota is intended to cover monitoring, the use of institutional controls, enforcement, and review and reevaluation of sites. While Minnesota does not officially track sites, the State is trying to add institutional controls as a data element within its current database. To date there are no formal review mechanisms to ensure that institutional controls are working at sites where they have been implemented. The State does not employ set criteria to determine which type controls take precedence; rather, the system is based on site-specific conditions, such as future use.

OHIO

State Sites

Known and Suspected: 1,884
Identified as Needing Attention: 403
On Inventory or Priority List: N/A

Statutory Authorities

The Ohio Revised Code, O.R.C. §3734 (*Solid and Hazardous Waste Disposal*), authorizes a cleanup fund, voluntary cleanup activities, as well as provides enforcement authorities. The O.R.C. §3746 (*Voluntary Action Program*) provides for a cleanup fund, and authorizes property transfer provisions and a voluntary cleanup program. In addition, O.R.C. §3745 (*Environmental Protection Agency*) authorizes enforcement activities, citizen suits, and provides for long-term stewardship, while O.R.C. §6111 (*Water Pollution Control*) authorizes enforcement activities.

Program Organization and Funding

The Division of Emergency and Remedial Response (DERR) in the Ohio Environmental Protection Agency (OEPA) administers the State cleanup program. The Voluntary Action Program (VAP) employs 15 FTEs. The Attorney General's Office supplies 2.5 FTE staff attorneys to work on non-NPL site cleanups.

Cleanup Activities

The State has approximately 181 cleanup activities underway, of which 31 are voluntary cleanup activities. Since the start of the program, 41 remedial actions, and 180 voluntary cleanup activities have been completed. Twenty-one (21) voluntary cleanups have been completed in the last fiscal year. The State no longer maintains an official priority list.

Cleanup Funding

Fund balance information was not provided for Ohio's cleanup funds for FY00. The Hazardous Waste Cleanup Fund can be used for site investigation, studies and design, removals, operations and maintenance, grants to local governments, remedial actions, and program administration. Significant sources of the Fund are cost recovery and waste fees. Penalties are a minor source.

The Hazardous Waste Facility Management Fund (a shared fund with the Hazardous Waste and Hazardous Waste Facility Board Program) is employed for CERCLA matches, emergency response, and program administration. The only source of the Fund is waste fees.

The Voluntary Action Program Administration Fund can be used for program administration. Significant sources of the Fund are user fees and loans from other State accounts. Cost recovery is a minor source.

The Clean Ohio Revitalization Fund—formerly known as the Issue One Bond Fund—was authorized in July 2001 and will provide $200M for brownfield cleanup activities in the State. Grants or loans from the Fund are capped at $3M however, public health projects can receive up to $25M. Only non-responsible parties are eligible to apply for Fund grants and loans.

Cleanup Policies and Criteria

For State cleanups Ohio follows CERCLA standards, which include background levels, water quality criteria, MCLs/MCLGs, groundwater standards, and soil standards in conjunction with risk assessments to determine cleanup levels. Carcinogenic risk goals of 10^{-4} to 10^{-6} are used, with 10^{-6} as the point of departure. Non-carcinogenic risk assessment has a hazard index of 1.

Voluntary cleanup levels under the Voluntary Action Program are determined using background levels, water quality criteria, MCLs/MCLGs, groundwater standards, soil standards that include chemical specific health-based standards and sediment standards in conjunction with risk assessment. For voluntary cleanups a cumulative risk goal of 10^{-5} is used for carcinogens with a hazard index equal to one employed for non-carcinogens.

Land use is considered in determining cleanup levels at both State and VAP sites. Future land use assumptions for State sites are made based on current and potential site use as well as nearby land uses and zoning restrictions. In the voluntary program, the volunteer may choose the land use but exposure assumptions must coincide with the intended land use. Deed restrictions (which are always required for cleanups that do not reach an unrestricted (residential) use level) and conditions of operations and maintenance are among the institutional controls used to ensure that specified land uses are maintained.

Public Participation

Ohio law provides for public notice, public comment, and hearings/meetings in the State enforcement program and for public notice in the voluntary program. Under VAP, the Ohio EPA is in negotiations with the U.S. EPA to create a memorandum of understanding regarding public comment. Currently, public comments are addressed on an ad hoc basis. The memorandum of understanding will most likely be incorporated into the regulations during the five-year rule revision that is currently underway. The voluntary program conducts hearings and meetings on a policy/ad hoc basis.

Enforcement

Liability

Ohio imposes strict, retroactive, and joint and several liability. The State may impose civil penalties of $25K per day, but may not impose punitive damages.

Property Transfer

The State requires the disclosure of all known deficient conditions to prior to transfer of residential properties.

Voluntary and Brownfields Programs

The Voluntary Action Program (VAP) was established in 1994 (O.R.C. 3746). Unlike the State program, VAP has a specific statute and regulation that govern the voluntary cleanup process. Within VAP, any party is eligible for the program, except for those already regulated under federal or State law (O.A.C 3745-300-02). Incentives to participate in the program include: liability release through covenant not to sue, which releases the volunteer from State civil liability associated with the cleanup; tax incentives; low interest loans available through the water pollution control program; and the RLF for investigation and cleanup of brownfield properties. The State charges a range of fees to cover its program administration, including program audits, review of cleanup documentation, review of professional and lab certification, technical assistance, and annual audits of a percentage of sites that have conducted VAP cleanups. Ohio incorporates brownfields into the VRP but does not have a formal brownfields program. However, it should be noted that the Clean Ohio Revitalization Fund, approved in July 2001, allows expenditures for the redevelopment of brownfields.

Long-term Stewardship and Institutional Controls

Ohio has long-term stewardship programs integrated into the State cleanup program, the VAP and the RCRA programs. The use of institutional controls, monitoring, and enforcement and are integral to how site owners show compliance with the VAP statute and with the enforcement program's guideline and policy documents. Although Ohio does not have a database that specifically tracks the use of institutional controls the VAP site database allows Ohio EPA to track and query information on institutional controls. Additionally, the RCRA program is developing a database that will track the use of institutional controls.

WISCONSIN

State Sites

Known and Suspected: 3,000
Identified as Needing Attention:
On Inventory or Priority List:

Statutory Authorities

The *Remedial Action* statute, Chapter 292 Wis. Stat. § 292 (1997), consolidated all of Wisconsin's hazardous waste cleanup laws. The statute provides for a State cleanup fund, contaminated property transfer, a voluntary cleanup program, brownfields cleanup, long-term stewardship and enforcement for State cleanups. Brownfields cleanup is also authorized under the *Land Recycling Loan Program*, Chapter NR 167 and the *Brownfield Site Assessment Grant Program*, Chapter NR 168. The *Dry Cleaner Environmental Response Program*, Chapter NR 169, establishes a cleanup fund.

Program Organization and Funding

The Bureau for Remediation and Redevelopment (BRR) within the Department of Natural Resources administers hazardous substance cleanup and employs 110 FTE staff. The Bureau of Legal Services within the Department of Natural Resources provides legal support to the BRR with 5.5 FTE staff attorneys. Funding for the State and voluntary programs is provided by federal grants/cooperative agreements, the State general fund, the State cleanup fund, and fees.

Cleanup Activities

Cleanup is currently underway at 600 sites with cleanups completed at 250 sites during the last fiscal year for a total of approximately 2,000 sites completed since the start of the program. Within the voluntary program cleanup is underway at 100 sites with 10 sites completed during the last fiscal year and 25 sites cleaned up since the start of the program. It is important to note that Wisconsin's voluntary program per se is very specifically defined, therefore many sites in the State are cleaned up by voluntary parties using the State's standard procedures.

Wisconsin maintains a priority list based on a screening process that determines whether sites have a high potential for causing, or threatening to cause, pollution.

Cleanup Funding

The Environmental Fund (EF) had a balance of $1.4M at the end of FY00. The total amount obligated or encumbered during FY00 was $1.6M, with $4.5M paid out of the EF. All monies from the fund were used for non-NPL sites. The major sources of funding for the EF are appropriations and waste fees with penalties and cost recovery as minor sources. The EF may be used for site investigation, CERCLA match, studies and design, operations and maintenance, removals, victim compensation, emergency response, remedial actions, program administration, and long-term stewardship

Wisconsin's Bonding Authority Fund had a $21.4M balance at the end of FY00. During FY00 $9.2M was obligated or encumbered with $400K allocated to NPL sites and $3.9M allocated to non-NPL sites. There were no additions to the fund during the past fiscal year. Appropriations and bonds are the major sources of funding with remedial actions, CERCLA match, studies and design, site investigation, and removals constituting the authorized uses for the Fund.

In addition to the two existing funds Wisconsin has two relatively new funds, the Site Assessment Grants Fund and the Dry Cleaner Fund. The Site Assessment Grants Fund had a balance of $1.4M at the end of FY00. The past fiscal year was the first for the program, and due to rule writing, there were no funds encumbered or expended. The

Site Assessment Grants Fund is financed by appropriations and waste fees and can be used for site investigation, removals, and grants to local governments. At the end of FY00 the Dry Cleaner fund had a balance of $2.18M with $1.1M in additions to the fund and $520K expended. The Dry Cleaner fund is financed by appropriations and can be used for site investigation, studies and design, operation and maintenance, removals, and remedial actions.

Cleanup Policies and Criteria

Wisconsin employs groundwater standards, soil standards, background levels, water quality criteria, chemical-specific health-based standards, land-use-based standards, and MCLs/MCLGs in conjunction with risk assessments to determine cleanup levels. Wisconsin uses a two-tier system to achieve groundwater standards. The State uses a 10^{-6} risk level for carcinogens and a hazard index of less than or equal to one for non-carcinogens. Additionally, the Bureau of Remediation and Redevelopment works closely with the Department of Health for constituents without specified standards for cleanup. The State uses the same standards to determine voluntary cleanup levels.

Land use is considered when determining cleanup levels for all cleanup programs in Wisconsin. The State uses industrial and non-industrial soil standards and requires institutional controls, including deed restrictions and zoning, to maintain appropriate land uses. This process is established in the Wisconsin Administrative Code NR 720.

Public Participation

The State requires public notice, public comment, and hearings/meetings for State and voluntary program cleanups. The level of public participation varies from site-to-site within the State depending upon the magnitude of the cleanup and other relevant factors.

Enforcement

Liability

Wisconsin applies joint and several liability standards. Retroactive liability is imposed in certain circumstances. The State may impose civil penalties up to $5K per day per violation. The State cannot impose punitive damages.

Property Transfer

Wisconsin requires sellers to disclose the presence of hazardous substances on-site before transfer. The State's residential property transfer law contains requirements for disclosure of environmental hazards prior to transfer of certain residential properties. The State also maintains a database of known or listed sites.

Voluntary and Brownfields Programs

Wisconsin established a voluntary cleanup program in 1994 under the Land Recycling Law, and amendments in 1997 substantially expanded the program. Anyone, including a responsible party, is eligible to participate in the program. All sites with contamination, excluding some landfills, are eligible to participate. State participation is funded by a $250 application fee followed by an hourly fee of $70 for staff services. These fees cover all Department of Natural Resources technical reviews and approvals. Program incentives include an exemption from future liability under State laws and certificates of completion.

Wisconsin's brownfields program covers any site meeting the basic definition of a brownfield, *i.e.* any abandoned, idle or underused property where expansion or redevelopment does not occur due to known or perceived contamination. The program covers both RCRA and UST sites and includes approximately 10,000 sites. Incentives for participation in the brownfields program include grants, loans, tax increment financing districts and tax credits.

Long-term Stewardship and Institutional Controls

Wisconsin has a long-term stewardship program for its State, voluntary, brownfield, and RCRA programs that includes monitoring of sites as well as the use of institutional controls. The State keeps track of institutional controls through its larger cleanup database that tracks the use of institutional controls at State, voluntary, brownfield, and RCRA program sites. The prevailing use of the database is to provide information to the public, and is available via the Internet and in hard copy.

REGION 6

Arkansas
Louisiana
New Mexico
Oklahoma
Texas

ARKANSAS

State Sites

Known and Suspected: 415
Identified as Needing Attention: 67
On Inventory or Priority List: 11

Statutory Authorities

The Arkansas Code Annotated Title 8 (Environmental Law) provides general enforcement authorities and authorizes two cleanup funds, a priority list, and citizen suits. Specifically, the *Remedial Action Trust Fund Act* (RATFA), Ark. Code Ann. §§8-7-501 *et seq.*, establishes the Hazardous Substance Response Trust Fund and a State priority list of hazardous waste sites. The *Emergency Response Fund Act* (ERFA), Ark. Code Ann. §§8-7-401 *et seq.*, establishes the Emergency Response Fund. Both RATFA and ERFA provide for apportionment of liability and authorize civil and criminal penalties, treble damages, and cost recovery. In addition to RATFA and ERFA, the State draws upon general authorities of Title 8 to administer its cleanup program.

The *Arkansas Voluntary Cleanup Law*, Arkansas Code Annotated §8-7-1101 *et seq.* (Act 125 of 1995, as amended by Act 1042 of 1997 and Act 164 of 2001), provides authority for a voluntary response program, encourages cleanup and redevelopment of brownfields, and contains contaminated property transfer provisions.

Program Organization and Funding

The Inactive Sites Branch of the Arkansas Department of Environmental Quality's (ADEQ's) Hazardous Waste Division is the lead program office for cleanup of abandoned and inactive properties. The Inactive Sites Branch employs 10 FTEs. Legal support is provided by approximately 0.1 FTE attorney in the ADEQ Legal Division. Funding for staff and administration comes from the State cleanup fund and federal grants/cooperative agreements.

Cleanup Activities

No information is available on the State's cleanup activities during FY00.

Under ADEQ Regulation 23 §26, a site may be listed on the State's priority list (SPL) if hazardous substances on the property pose a potential substantial endangerment to human health and/or the environment. Endangerment is determined by using a site-specific risk assessment. To be listed on the SPL, a site must pass administrative procedures as well as a public notice and comment process.

Cleanup Funding

No data was available for funding figures in FY00. Arkansas' Emergency Response Fund (ERF) is authorized for site investigation, emergency response, and associated removal actions. No more than $60K may be withdrawn at a time, and the Arkansas Pollution Control and Ecology Commission must authorize any expenditure from the ERF. The most significant source of funding to the ERF in FY00 was penalties. Interest was a minor source.

Authorized fund uses of the State's Remedial Action Trust Fund (RATF) include site investigation, CERCLA match, studies and design, operations and maintenance, remedial actions, and program administration. Additionally, 10 percent of fund revenues (up to cap of $250K per year) are deposited in the State's Environmental Education Fund. The Arkansas Pollution Control and Ecology Commission must also authorize any expenditure from the RATF. Significant sources of funding include waste fees, cost recovery, and penalties that flow over from the ERF once it reaches its $150K cap. Interest was a minor source.

Cleanup Policies and Criteria

The State's cleanup standards are based on a risk management process. No single set of soil clean-up levels has been implemented and site-specific factors are considered when developing action levels. Cleanup goals may be met by reaching background metals concentrations, consulting Region 6 Human Health Media Specific Screening Levels, performing a traditional human health risk assessment, or a combination of all three options when appropriate. Site-specific cleanup standards are established in enforceable Consent Administrative Orders (CAOs). Ecological risk assessment decisions are based on sediment screening levels developed by the National Oceanographic and Atmospheric Administration. Factors in determining the appropriate action levels for State, voluntary, and RCRA cleanups include reasonably anticipated future land use, the use of engineering or institutional controls, human and/or ecological receptors, water quality criteria, background levels, and MCLs/MCLGs. Numerical risk goals range from10^{-4} to 10^{-6} for carcinogens and a hazard index of one for non-carcinogens. Depending on the remaining risk, land use restrictions may be specified in a site's CAO and recorded in the property deed. Under the *Voluntary Cleanup Law*, a CAO must be filed with the clerk of the circuit court in the county in which the site is located. The Order is transferable to all subsequent owners, and the land use designated therein cannot be changed without notifying the ADEQ, which will revisit the associated risk management decision.

Public Participation

State statutes and regulations provide requirements for public notice, provisions for public comment, hearings/meetings, and document availability for all sites in the State, voluntary, and brownfields cleanup programs. A public hearing is held prior to decisions to add or delete sites from the State priority list. Transcripts of public hearings and comments received on cleanup sites become part of administrative records. Public meetings and/or fact sheets are provided prior to major milestones on cleanup projects.

Enforcement

Liability

Arkansas applies strict, joint and several, and retroactive liability, except in cases where proportional liability is proven by a preponderance of the evidence. Participating responsible parties (RPs) may sue non-participants to recover their share of the cleanup costs. The State may impose civil penalties up to $25K per day and criminal penalties for violating the Code, making false statements, or violating an Order. Treble punitive damages are also available.

Property Transfer

The *Voluntary Cleanup Law* requires that a property deed disclose the presence of on-site hazardous substances. The State has provisions to apply liens when State funds are expended. The ADEQ maintains a database of known and listed sites.

Voluntary and Brownfields Programs

Arkansas established a voluntary cleanup program in 1995 under the authority for the Remedial Action Trust Fund. The legislature then enacted authority for the VCP in 1997 and amended the law in 2001. The program is open to prospective purchasers of abandoned industrial, commercial, or agricultural properties with known or suspected contamination who plan on reusing the site to sustain or create employment opportunities. Sites that are not eligible for the VCP include those identified on federal the NPL; sites that have been submitted by ADEQ to the USEPA to be considered for the NPL; RCRA permit sites; sites operating under Interim Status authority under Arkansas regulations; and sites subject to Fed. CERCLA or RCRA order. Incentives for voluntary cleanups include a limitation of liability for program participants. Additionally, persons not responsible for preexisting pollution at or contamination on industrial sites may be allowed to meet alternative cleanup requirements if they acquire title after the nature of conditions at the site have been disclosed and declare and commit to investigate, remediate as necessary,

and limit the property to a specified future land use of the subject site. Once this remediation has been completed, future liability is limited to pollution or contamination that arises as a result of the new owner's activities or operations on the site.

As established by the *Arkansas Voluntary Cleanup Law*, the State also conducts brownfields cleanups under the VCP. The State has a federal grant that provides funding for targeted brownfields assessments for local (municipal and county) government clients.

Long-term Stewardship and Insitutional Controls

Arkansas does not have a system to monitor or enforce long-term stewardship and institutional controls.

LOUISIANA

State Sites

Known and Suspected: 730
Identified as Needing Attention: 130
On Inventory or Priority List: 730

Statutory Authorities

Chapter 12 of the *Inactive and Abandoned Hazardous Waste Site Law* (La. Rev. Stat. 30:2271-2280), entitled Liability for Hazardous Substance Remedial Action, provides enforcement authorities and minimum remediation standards. The *Hazardous Waste Control Law*, La. Rev. Stat. 30:2205, establishes the Hazardous Waste Site Cleanup Fund. La. Rev. Stat. 30:2039 requires landowners to disclose the presence of hazardous wastes in property conveyances. The *Voluntary Investigation and Remedial Action Act* (La. Rev. Stat. 30:2285-2290) authorizes the voluntary cleanup program. While not unique to the State Superfund program, La. Rev. Stat. 30:2026 authorizes citizen suits.

Program Organization and Funding

The Remediation Services Division of the Department of Environmental Quality's (DEQ's) Office of Environmental Assessment employs 45 FTE staff (60 FTE are authorized) that work on inactive hazardous waste sites. Legal support is provided by one FTE attorney from the Office's Legal Division. Staff and administrative costs for the State program are funded through federal grants/cooperative agreements (7 percent), the State cleanup fund (79 percent), and Multi-Project and DSMOA (14 percent). Funding for the VCP/brownfields program comes from federal grants/cooperative agreements (90 percent) and the State cleanup fund (10 percent). Fees have also recently been implemented for the voluntary program.

Cleanup Activities

Cleanup activities are currently underway at 10 non-NPL sites. During FY00, cleanups were completed at three non-NPL sites and 196 cleanup activities have been completed since the start of Louisiana's program. Seven (7) of the current sites are contained within the State's relatively new voluntary cleanup program.

Cleanup Funding

The Hazardous Waste Site Clean-up Fund (HWSCF) had a balance of $3.8M at the end of FY00. $6M was added to the fund during the fiscal year, and a total of $6.5M was paid out: $115K to non-NPL sites and $891K to NPL sites. The remaining $4.1M was transferred to the Environmental Trust Fund for use by the entire department and $1.4M was used for administrative costs. During FY00 $1.6M was also encumbered: $1.2M for non-NPL sites and $429K for NPL sites. Major sources of funding for the HWSCF include penalties and a portion of the taxes on hazardous waste generation, while interest and monies recovered through judgments and settlements are minor sources of funding. The HWSCF may be used for site investigation, emergency response, removals, remedial actions, victim compensation, studies and design, program administration, CERCLA match, and operations and maintenance.

Cleanup Policies and Criteria

In order to avoid any significant threat to public health or the environment, the DEQ is required to select remedies, based on cost effectiveness, that reduce exposure or potential exposure to hazardous substances. There is also a preference for permanent remedies. Selection and application of cleanup standards are based on Louisiana's Risk Evaluation/Corrective Action Program (RECAP). Parties have a choice within the tiered framework composed

of a Screening Option and three Management Options (MO), with MO-1 consisting of tables of numerical standards, MO-2 allowing for changes to some of the soil parameters, and MO-3 relying on site-specific risk assessments. RECAP Standards are based on industrial and non-industrial land use scenarios depending on future land use. Soil and Groundwater Standards are also contained in RECAP. Numerical risk goals for groundwater and soil standards are 10^{-4} to 10^{-6} for carcinogens and a Hazard Index of one for non-carcinogens. The same cleanup standards apply to sites handled through the VCP, as well as RCRA and leaking underground storage tank cleanups.

Public Participation

Under Louisiana law, the State must provide public notice, an opportunity for a public meeting and, if requested, a public comment period prior to approval of a remedial investigation plan and selection of a remedy for sites in the State cleanup program. A public comment period is also required for closure plans when the DEQ proposes to treat, store, or dispose of hazardous wastes at an abandoned site. At complex sites, the DEQ institutes community relations programs that include regular public meetings and fact sheets. Public meetings may be held under the State's voluntary cleanup program.

Enforcement

Liability

Louisiana has strict, retroactive, joint and several liability standards, but the State allows responsible parties to assign proportional liability amongst themselves where practicable. Civil penalties of up to $25K per day may be recovered for PRP failure to provide requested information. Non-participating PRPs are subject to double damages for the participating PRPs' cleanup expenditures and treble damages for the State's expenditures. Louisiana will negotiate a settlement with PRPs or issue a remedial demand order wherever possible. The DEQ has the authority to seek recovery of State costs from PRPs once the work is done.

Property Transfer

Louisiana may impose a lien or superlien for the recovery of remedial costs incurred by the State and has a statutory requirement that the landowner of an identified hazardous waste site record the location of the site in the mortgage and conveyance records of the parish in which it is located. The State also has a law that requires property sellers to disclose latent defects to the property before transfer; while this provision is not specific to environmental law, it could be used to require disclosure of on-site hazardous substances. The State maintains a database to track assessment and remediation of contaminated sites.

Voluntary and Brownfields Programs

Louisiana's voluntary cleanup program was established by statute in 1995 and regulations were promulgated in 2001. The program is open to anyone, although the following categories of sites are not allowed to participate: sites listed or proposed on the NPL; permitted hazardous waste management units; Trust Fund eligible underground storage tanks, and sites that have pending unresolved federal environmental enforcement actions related to the proposed voluntary remediation. The main incentive is a release of liability for costs of cleanup from historical contamination after the DEQ issues a certificate of completion. The program was initially funded with federal assistance and now includes a $500 application fee for participation, including and direct costs for State oversight.

The State encourages cleanup and redevelopment of brownfields through the voluntary cleanup program. Currently all seven voluntary cleanups underway are considered brownfields.

Long-term Stewardship and Institutional Controls

Louisiana's long-term stewardship program covers the State and voluntary cleanup programs and includes monitoring, use of institutional controls, and enforcement. Under the voluntary program the State has specific statutory authority to place long-term use restrictions on the site in the case of partial cleanups. Long-term stewardship is

considered to be a part of regular staff duties. Although the State does not have a database specifically designed for this program, the DEQ uses a database that logs all activities, letters, and the dates of closures. All records, including this database, are subject to review by the public in Louisiana. The State primarily uses groundwater use restrictions and deed conveyance notices as institutional controls. All sites cleaned up to industrial levels are required to have conveyance notices placed on their deeds.

NEW MEXICO

State Sites

Known and Suspected:	1,210
Identified as Needing Attention:	153
On Inventory or Priority List:	30

Statutory Authorities

New Mexico does not have a formal State Superfund program, so the State attempts to address non-NPL sites through various regulatory mechanisms including State law and Administrative Orders on Consent (AOCs). When used, AOCs are negotiated with PRPs and call for CERCLA-like investigation and cleanup of all affected media, including those for which the State does not have standards (*i.e.*, direct contact with soils).

The *Hazardous Waste Act*, N.M. Stat. Ann. 74-4-1 to 74-4-13 (1988, as amended 1989 and 1991), establishes the Hazardous Waste Emergency Fund for emergency response and removals, the State CERCLA match, and certain enforcement authorities.

The *Water Quality Act*, N.M. Stat. Ann. 74-6-1 *et seq.* (1993), provides additional enforcement authorities and provisions for citizen suits by appeal, limited to those who have already been involved in the decision through the public participation process.

The *Environmental Improvement Act*, N.M. Stat. Ann. 74-1-1 *et seq.*, authorizes Administrative Orders on Consent and provides associated enforcement authorities.

The *Voluntary Remediation Act*, N.M. Stat. Ann. 74-4G-1 *et seq.* (1997), authorizes the Voluntary Remediation Program.

Program Organization and Funding

New Mexico's cleanup activities are administered by the Superfund Oversight and Assessment and Abatement Sections of the Groundwater Quality Bureau, Water and Waste Management Division of the New Mexico Environment Department. Currently 11 FTEs are employed on non-NPL projects within these sections, and a total of 15 FTEs have been authorized for such work. Legal support is provided by 0.5 FTE attorneys from New Mexico Environment Department's Office of General Counsel. Staff and administrative costs for the State program are funded by the State general fund (70 percent) and responsible private parties (30 percent). Funding for the Voluntary Remediation Program comes from federal grants/cooperative agreements (90 percent) and the State general fund (10 percent).

Cleanup Activities

Cleanup activities are underway at 20 non-NPL sites. During FY00, cleanup activities were completed at 12 non-NPL sites. Since New Mexico began remediating hazardous waste at abandoned sites, cleanup activities have been completed at 140 non-NPL sites. Nine (9) of the activities underway, two of the cleanups completed in FY00, and three of the cleanups completed since the start of the program are contained within the Voluntary Remediation Program (VRP).

Cleanup Funding

The Hazardous Waste Emergency Fund (Emergency Fund) had a balance of $1.6M at the end of FY00. During the fiscal year, $197K were added to the fund, $189K were paid out and $69K were encumbered, all for use at non-NPL sites. The Emergency Fund may be used for site investigation, studies and design, removals, emergency response, and CERCLA match. All fund revenues come from penalties.

The Assessment and Abatement State General Fund (AASGF) had a balance of $23K at the end of FY00. During the fiscal year, $251K were added to the fund, $251K were paid out to non-NPL sites, and $141K were encumbered for use at non-NPL sites. The AASGF may be used for site investigation, CERCLA match, studies and design, and program administration costs. The AASGF's only significant source of funding is appropriations.

Cleanup Policies and Criteria

New Mexico's cleanup levels are based on background levels, risk-based groundwater standards, and chemical-specific health-based standards. The State uses a risk assessment standard of 10^{-5} for carcinogens and toxicologist recommendations for non-carcinogens. Future land use is also generally considered when determining standards. Cleanup standards for groundwater and surface water, however, are set by regulation and are applied uniformly to all sites without regard for land use considerations. All groundwater with less than 10,000 ppm total dissolved solids is protected for future residential use regardless of present use. New Mexico uses a tiered risk-based corrective action (RBCA) process for soil contamination on State cleanup sites. The three tiers increase in level of complication from a look-up table, to using site-specific data in RBCA equations, to a site-specific risk assessment. The VRP uses many of the same standards, but specifically adds soil standards and a general Hazard Index of one for non-carcinogen risk assessments.

Public Participation

At all non-NPL sites, including voluntary activities, New Mexico follows the regulations of the Water Quality Control Commission, which mandate public notice, public comment, and hearings/meetings. At sites being cleaned up under AOCs, responsible parties often make technical assistance grants available to local communities.

Enforcement

Liability

Liability in New Mexico is strict, joint and several, and retroactive. Enforcement authorities include orders for site access and information, administrative and consent order authority, injunctive actions, civil penalties, and cost recovery authority. Preferred enforcement methods include injunctions or sending a notice of violation with a time period for compliance and a proposed penalty. Civil penalties may be imposed at a rate of $10K per day for water quality violations, up to $15K per day for discharge permit violations, and up to $25K per day for compliance order violations. Punitive damages are not available.

Property Transfer

New Mexico has no law governing the transfer of hazardous waste sites. The State may request deed restrictions, but they are not legally enforceable.

Voluntary and Brownfields Programs

New Mexico's Voluntary Remediation Program was established in 1998 and is open to any person who has not shown past willful disregard for environmental laws. All sites not under enforcement actions are eligible to participate in the VRP. Incentives for the recently developed program include liability protection for lenders, a completion certificate, a covenant not to sue from the State, and an enforcement shield. New Mexico's enforcement shield may apply to any site that is accepted into the VRP and says that while involved in a cleanup action the State will not enforce against the site. A covenant not to sue is only available to subsequent purchasers who were not involved in the original pollution. Participants in the VRP are charged a $1K application fee and $65 per hour for oversight. Federal grants provide additional funding for the program.

The State's VRP also oversees brownfields cleanups, which are defined as municipally owned properties or properties being considered for purchase by municipalities. Cleanup is currently underway at eight brownfields sites. New Mexico does not provide any incentives beyond those from the VRP for the redevelopment of brownfields.

Long-term Stewardship and Institutional Controls

New Mexico's VRP contains a long-term stewardship program, which includes monitoring, enforcement, and review. One quarter of a FTE has been designated to work on this fledgling program. Currently the State is developing a database to track institutional controls at voluntary sites, which will be reviewed every two years. Brownfields sites that are part of the VRP will also be included in the long-term stewardship database.

OKLAHOMA

State Sites

Known and Suspected:	850
Identified as Needing Attention:	170
On Inventory or Priority List:	N/A

Statutory Authorities

The Environmental Quality Code, 27A O.S. Supp.2000, which includes the following Acts that authorize enforcement: the *Solid Waste Management Act* (§2-1-101 *et seq.*)*;* the *Hazardous Waste Management Act* (§2-7-101 *et seq*); and the *General Regulation and Enforcement* (§2-3-501 *et seq.*), defines unmanaged hazardous waste as a nuisance and provides for property transfer requirements. The State's nuisance law (50 O.S. Supp. 2000 §2-11) defines the liability of property owners and allows the State to hold successor owners accountable for prior releases. The *Hazardous Waste Fund Act* (27A O.S. Supp. 2000 §2-7-301 *et seq.*) authorizes the cleanup fund. The *Brownfields Voluntary Redevelopment Act* (27A O.S. Supp. 2000 §2-15-101 *et seq.*) authorizes the State's brownfields program and provides for property transfer requirements.

Program Organization and Funding

The Department of Environmental Quality's (DEQ) Land Protection Division administers the State's hazardous substance cleanups. The office employs 34 FTEs, although 45 FTEs are authorized. Legal support is provided by four FTE attorneys from the DEQ's Office of the Executive Director, Office of General Counsel. The DEQ operates a brownfields program and an informal cleanup program. The informal program may be utilized for both State actions and voluntary cleanups. The brownfields program is, by law, voluntary. Funding for informal cleanup staff and administration comes from oversight cost fees (60 percent), federal CORE/cooperative agreements (20 percent), and the State general fund (20 percent).

Cleanup Activities

Cleanup activities are currently underway at approximately 87 non-NPL sites. During FY00, cleanups were completed at 26 non-NPL sites. Since Oklahoma began remediating hazardous waste at abandoned sites, cleanups have been completed at 110 non-NPL sites, all of which were handled through the State's voluntary program. The State does not have a priority list. However, the DEQ maintains a VCP/brownfields tracking list of sites that have contacted the State about potential cleanups.

Cleanup Funding

The Hazardous Waste Fund (220) had a balance of $313K at the end of FY00. Of the total $1.34M paid out, $1.32M went to NPL sites and $16K went to non-NPL sites. During the fiscal year, a total of $385K was obligated, all for NPL sites. A total of $1.09M was added to the fund. Transfers of waste fees were the most significant source of funding and penalties were a minor source. Authorized uses of the fund include operations and maintenance, CERCLA match, and emergency response.

The Environmental Trust Fund (215) had a balance of $0.53 at the end of FY00. The ETF is funded entirely through transfers from the Oklahoma Corporation Commission's Underground Storage Tank Indemnity Fund. In the past, excess revenues of up to $1M were transferred to the DEQ. Currently the excess revenue is transferred to the Oklahoma Department of Transportation. The Indemnity Fund is funded through a one cent per gallon assessment on petroleum distributors. Its only authorized uses are CERCLA matches and operations and maintenance pertaining to oil contamination.

Cleanup Policies and Criteria

Cleanup standards are determined by toxicologists using site-specific risk assessments to develop cleanup goals based on: current and prospective land use; surrounding population and public health; and soil and groundwater considerations. Cleanup standards are based on: risk levels of 10^{-6} for carcinogens and a Hazard Index of one for non-carcinogens; background levels, where they exceed other standards; water quality criteria; and MCLs/MCLGs. Site-specific cleanup levels are developed based on risk and future use of the property. A three tiered approach is used: (1) comparison of site data to specified screening levels; (2) development of conservative risk-based default cleanup levels using site-specific data, the methodology in this case is based on Risk Assessment Guidance for Superfund; and (3) implementation of a site specific risk assessment. Cleanup criteria for voluntary and brownfields sites are generally the same. If the site does not meet screening levels, participants may perform a risk assessment and may also use the three tier system.

Public Participation

Oklahoma does not have formal requirements for public participation in cleanup decisions, unless cleanups are conducted under a permit or the brownfields program. Under 27A O. S. Supp. 2000 §2-14-301, the *Uniform Environmental Permitting Act*, the State must require public notice, opportunities for public comment, and provide for public meetings, if requested, for cleanup decisions under the brownfields program. The DEQ encourages and will facilitate additional public participation, such as citizen advisory boards.

Enforcement

Liability

The State has the authority to apply standards of liability similar to Superfund's strict, joint and several, and retroactive liability. In cases where public health is in jeopardy, Oklahoma has authority to require cleanup through nuisance laws. Otherwise, the State does not have specific authority to enforce cleanup of pre-RCRA hazardous substances. All non-NPL and non-RCRA cleanups are conducted under Consent Order, either under the informal cleanup program of the Brownfields Voluntary Redevelopment Act. Civil penalties may be assessed up to $25K per day per hazardous waste violation and $10K per violation for any other violation. Penalties for knowingly converting the use of a brownfields site to a use different from the one specified in the land use disclosure are $1K and up to one year imprisonment in the county jail per offense per day.

Property Transfer

The State requires disclosure in the County Land Records of any cleanup action that has been conducted under DEQ consent order. All brownfields certificates must be filed in the County Land Records.

Voluntary and Brownfields Programs

Oklahoma has an informal cleanup program established in the 1988. In June of 1996, the Oklahoma Brownfield Voluntary Redevelopment Act was passed. Under the program, sites are addressed through negotiated consent orders, technical work plans, and public comment. The informal cleanup program is open to various participants and can be used for State cleanups as well as a voluntary cleanup program.

The brownfields program is available for any real property. However, other programs may be more applicable to some sites. Incentives for participation include a certificate of completion or certificate of no action necessary. The certificates contain a covenant not to sue from the State, and EPA's assurance that it will not pursue the site under CERCLA. There is also no State sales tax on equipment, machinery, fuel or remedial chemicals charged to cleanup sites under DEQ authority. Incentive payments are provided under the Quality Jobs Program Act for industries that locate their principal operation on a remediated site of 10 acres or larger. Finally, low interest loans are available to municipalities to cleanup brownfields that have the potential to pollute the waters of the state. The participant must reimburse the State's actual costs. Actual costs include all direct costs of DEQ oversight and arrangement for the

investigation including, but not limited to, time and travel costs of DEQ personnel, contractor costs, personal protective equipment, document review, and the costs of collecting and analyzing split samples.

To date, seven sites have completed the brownfields program and one site is under review. Of these, one cleanup is currently underway, two have been redeveloped, one redevelopment is under construction, two are continuing to be used by the participants, and one obtained the brownfields certification for the sale of the property. For each site, a deed notice will be placed in the County Land Records indicating the appropriate use for the property based on the level of cleanup. The DEQ policy encourages the cleanup and reuse of contaminated property and considers green space a valid reuse. Incentives for participation in the brownfields program are liability relief, sales tax incentives, and low interest loans. There is also a financial incentive for industries that locate their principal operation on a remediated site of 10 acres or larger.

Long-term Stewardship and Institutional Controls

Oklahoma allows some institutional controls at cleanup sites; however, it prefers self-implementing controls that do not require ongoing oversight. These include, but are not limited to, notices on deeds, zoning and ground water use restrictions, building permits, easements, restrictive covenants, and reversionary interest. State law authorizes penalties, including conviction for a misdemeanor with up to one year in prison and $1K in fines (per violation, per day,) in the event that a future owner/operator changes the land use in violation of the land disclosure. The DEQ has a general policy of requiring participants to prove that institutional controls are self-implementing or that the participant will be responsible for monitoring and reporting results to the DEQ. The DEQ will assist municipalities in assuring that contaminants left on site are incorporated onto plat maps.

TEXAS

State Sites

Known and Suspected: 611
Identified as Needing Attention: 48
On Inventory or Priority List: 49

Statutory Authorities

The *Hazardous Substances Spill Prevention and Control Act*, Texas Water Code Chapter 26, establishes the Spill Response Fund and provides enforcement authorities. The *Solid Waste Disposal Act*, Health and Safety Code Chapter 361, establishes the Hazardous Waste Remediation Fee Account (Fund 550) and a priority list, and provides authority for enforcement, water replacement, natural resource damage claims, and the State's voluntary cleanup program.

Program Organization and Funding

The Remediation Division within the Office of Permitting, Remediation, and Registration, of the Texas Natural Resource Conservation Commission (TNRCC) employs 113.67 FTEs. Legal support is provided by six FTE attorneys in the Environmental Law Division of the Office of Legal Services, TNRCC Legal Services Division. Funding for program administration comes from the State cleanup fund (78.4 percent) and federal grants/cooperative agreements (21.6 percent). Funding for the State's voluntary cleanup program comes from program fees (77.2 percent), the State cleanup fund (13.6 percent), and federal grants/cooperative agreements (9.2 percent).

Cleanup Activities

Cleanup activities, excluding LUSTs, are currently underway at 717 non-NPL sites, 690 of which are being remediated through the voluntary program. During FY00, cleanup activities were completed at 112 non-NPL sites, 104 of which were handled through the voluntary program. Since the start of the program, cleanups have been completed at 643 non-NPL sites, 586 of which were handled through the voluntary program.

To be included on the State's priority list, a site must satisfy three criteria: (1) alternative mechanisms for State enforcement have been exhausted or ineffective in achieving remedy; (2) the site does not qualify for the NPL; and (3) the site scored 5 or above using the federal Revised Hazard Ranking Score.

Cleanup Funding

The Hazardous and Solid Waste Remediation Fee Account (Fund 550) had a balance of $55.6M at the end of FY00. During the fiscal year, $29.5M were added to the fund and $23.9M were paid out, $20.4M of which were for non-NPL activities. $27.2M were also obligated or encumbered, $24.9M for non-NPL sites and $2.3M for NPL sites. The fund is available for site investigation, studies and design, removals, emergency response, remedial actions, CERCLA match, operations and maintenance, long-term stewardship, program administration, and pollution prevention. Its major sources of funding include waste fees and lead acid battery fees. Minor sources of funding include cost recovery and interest.

The Spill Response Fund (SRF) had a balance of $116.2K at the end of FY00. There were no additions to it and $75K were paid out, entirely to non-NPL activities. No funds were obligated or encumbered at the end of the fiscal year. The SRF is available for removals and emergency response. Funding is supplied through appropriations.

Cleanup Policies and Criteria

In 1999 TNRCC adopted a new cleanup methodology, the Texas Risk Reduction Program (TRRP) superseding the 1993 Risk Reduction Rules. This approach creates a three-tiered TRRP process, with a step-wise increase in the

use of site-specific information. The responsible party may decide which tier to use: (1) generic cleanup levels contained in a look-up table; (2) cleanup levels derived using site-specific TNRCC models; and/or (3) cleanup levels derived using site-specific user models. Once a cleanup level has been selected, TRRP allows persons performing cleanup to opt for either of two standards. Remedy Standard A involves removal or elimination of contaminants. Remedy Standard B allows for the control and management of contaminants instead of their removal.

Risk assessment, background levels, water quality criteria, MCLs/MCLGs, ground water standards, land-use standards, chemical-specific health-based standards, and soil standards are used to determine cleanup criteria. The risk assessment level for carcinogens is 10^{-5} or a cumulative level of 10^{-4} and non-carcinogens have a Hazard Index of one, or 1/10 cumulative. These levels and the TRRP are also used for the voluntary and RCRA programs and will apply to LUSTs starting in September of 2003.

Public Participation

TNRCC tailors public participation programs to meet the needs of the community. The State is required by statute to provide public notice, hearings, and the opportunity for public comment on cleanup decisions. TNRCC also conducts hearings and meetings when requested in cases where they are not required by law. Voluntary cleanup program regulations require the State to provide public notice. Public comment periods and hearings/meetings are provided on an ad hoc basis.

Enforcement

Liability

The State uses strict, joint and several, retroactive, and proportional liability standards. The proportional standard is used only when the preponderance of evidence proves divisibility of liability. Comprehensive order and injunctive authority, civil penalties of up to $25K per day, cost recovery, liens, *de minimis* settlement, mixed funding, and treble damages are available.

Property Transfer

Under Texas Property Code §5.008, sellers of residential property are required to give buyers a written notice disclosing the presence of hazardous or toxic wastes. However, TNRCC does not use this authority in administration of the State Superfund program.

Voluntary and Brownfields Programs

Texas has a voluntary cleanup program, established in 1995 by statute and regulation (30 TAC 333). Any person is eligible to participate and any site is eligible provided it is not subject to commission permit or order. Under the VCP, all non-responsible parties, including owners and lenders, are released from liability for contamination occurring prior to the date of issuance of the completion certificate. Applicants pay a user fee of $1K and are billed $95 per hour for TNRCC oversight costs, including legal and program reviews.

Texas makes no distinction between the voluntary cleanup program and brownfields sites. To date, 1245 sites have been identified, although none are at the cleanup stage yet.

Long-term Stewardship and Institutional Controls

TNRCC conducts long-term stewardship, including monitoring and maintenance, for the State, voluntary, and RCRA cleanup activities. The State recognizes the need for a formal program to address the issues associated with long-term care in a more systematic manner and has begun planning one. Presently, 0.5 FTE is designated for long-term stewardship, with funding from the Hazardous and Solid Waste Fund, VCP revenue, and RCRA funds. Sufficient funding exists to handle immediate needs, but no future funding is in place. The only database that the State uses covers individual programs and designates whether or not an activity had a clean closure. Texas would like to

improve this database system and have a new one available on the Internet. There is currently no specific requirement for the frequency of institutional control reviews, although the TRRP requires periodic reports on post-closure activities for sites where contaminants are left in place. Recently implemented institutional controls include groundwater use restrictions, some restrictive covenants, and notices placed on deeds.

REGION 7

Iowa
Kansas
Missouri
Nebraska

IOWA

State Sites

Known and Suspected: 475
Identified as Needing Attention: 210
On Inventory or Priority List: 72

Statutory Authorities

The *Environmental Quality Act* (EQA), Iowa Code Ch. 381-397 and 455B 423-431 (1972, as amended 1979, 1981, 1984, 1987, and 1991), establishes the Hazardous Waste Remedial Fund, provides cleanup and enforcement authorities for abandoned sites, establishes a priority list, allows for citizen suits and water replacement, provides for a site registry, restricts property transfers, and provides for long-term stewardship. Significant amendments concerning cleanup authority for abandoned and uncontrolled sites were enacted in 1979, 1981, and 1987. A 1984 amendment established the Hazardous Waste Remedial Fund.

The *Groundwater Hazard Documentation Law*, Iowa Code Ch. 558.69 (1987, as amended 1988), establishes disclosure requirements for real property transfers.

The *Land Recycling and Environmental Remediation Standards Act*, Iowa Code Ch. 455H (1997), establishes a voluntary cleanup program (VCP) for the State.

Program Organization and Funding

The Contaminated Sites Section of the Iowa Department of Natural Resources is responsible for program administration. There are currently 11 full time employees and 11 FTEs authorized. Legal support is provided by 0.25 FTE attorneys in the DNR's Compliance and Enforcement Bureau. Forty (40) percent of funds for staff and administration of the State cleanup program are from the State general fund and 60 percent are from federal grants. Funding for staff of the VCP comes primarily from the State cleanup fund (90 percent) while 10 percent is provided from the State general fund.

Cleanup Activities

At non-NPL sites, 210 cleanup actions are currently underway. There were eight cleanup actions completed at non-NPL sites in FY00. Fifty (50) voluntary cleanup activities have been completed since the start of the program. Of the current cleanups at non-NPL sites, 13 are currently underway under the VCP. One cleanup activity has been completed under the VCP since the start of the program, and it was completed during FY00.

The Department will consider the level of containment, nearby receptors for drinking water supplies, and the chemicals involved when determining whether to include a site on the State's registry. The State is considering the use of environmental easements to replace the need for a site registry.

Cleanup Funding

The Hazardous Waste Remedial (HWR) Fund had a balance of $89K at the end of FY00. Approximately $417,500 were added to the fund in FY00 primarily from fees on the transportation, treatment, and disposal of hazardous waste while cost recovery and private funds were minor sources. Approximately $328K were paid out during FY00 for non-NPL activities.

The HWR Fund may be used for administration, site investigation, emergency response, removals, remedial actions, operations and maintenance, CERCLA match, studies and design, grants to local governments, natural resource restoration, and long-term stewardship.

Cleanup Policies and Criteria

Iowa does not use the same standards for all hazardous substance cleanup programs. For the State cleanup program and for the VCP, risk assessment carcinogens, risk assessment non-carcinogens, background levels, MCLs/MCLGs, groundwater standards, and soil standards are used to establish cleanup levels. Under the State cleanup program, the risk range for risk assessment carcinogens is 10^{-4} through 10^{-6} and the risk range for risk assessment non-carcinogens is a hazard index of less than 1. There is no risk range established for the VCP. When using a land use or risk-based cleanup standard, the most conservative assumptions about future site-specific land use are made unless future land use can be determined prior to completion of risk assessment.

Public Participation

The voluntary cleanup law (455H) provides for public notice, provisions for public comment, hearings, and meetings. Provisions for public notice, public comment, hearings, and meetings are handled as a matter of policy under the State cleanup program.

Enforcement

Liability

The State applies strict, joint and several, and retroactive liability. The EQA preserves any legal or equitable rights, remedies or defenses. The State maintains that this preserves common law rules of joint and several liability. The State must try to negotiate a settlement with RPs prior to using Fund monies for cleanup. The State can issue orders and seek injunctions against RPs to clean up sites. The State can collect up to $1K per day for failure to notify, up to $10K per day for water or air violations, and treble damages for willful failure to clean up.

Property Transfer

Under the *Groundwater Hazard Documentation Law*, a property owner must disclose on the deed or with the recorder of deeds that the site was or is being used for the disposal of hazardous substances, and a seller must disclose the presence of hazardous substances on a site before property transfer. The State can also apply a lien when State funds are expended.

Voluntary and Brownfields Programs

Iowa established a VCP in 1999. Voluntary cleanups are independent of the State's cleanup program and any non-NPL site is eligible to participate in the VCP. As an incentive for participation in the program, the Department will issue a no further action certificate upon completion of a successful cleanup. For funding, the State charges fees on an hourly basis for departmental review and oversight. The reimbursement of actual State oversight costs is capped at $7,500 after which funds are taken from the HWR Fund. Iowa does not have a brownfields program.

Long-term Stewardship and Institutional Controls

Iowa has a long-term stewardship program for the State cleanup program and for the VCP. The long-term stewardship program includes monitoring, institutional controls, enforcement, and review and reevaluation. Eight staff are designated, as part of their regular work assignment, to carry out long-term stewardship programs, including one full-time staff. There is no funding specifically designated for carrying out long-term stewardship programs. The State has a database that tracks activities for easements on State cleanup program sites, voluntary cleanup sites, and federal facility sites, as required by law, but these results are not available to the public. The primary and secondary users of the database are technical staff. The State has plans to develop a separate database for institutional controls in the future. Sites where institutional controls have been implemented are reviewed yearly after implementation, and the results of these reviews are made available to the public.

KANSAS

Kansas did not provide any information for this study.

State Sites

Known and Suspected:
Identified as Needing Attention:
On Inventory or Priority List:

Statutory Authorites

The *Environmental Response Act (ERA)*, K.S.A. §65-3453 *et seq.* (1988), amends Kansas' hazardous waste law, enacted in 1981 and amended 1984 and 1985. The Act establishes the Environmental Response Fund (ERF) and provides enforcement authorities for cleaning up hazardous substances as well as hazardous wastes.

The *Kansas Water Plan*, K.S.A. §§82a-927 – 82A-953, establishes the State Water Plan/Contamination Remediation Account and provides for cleanup authorities.

The *Water Pollution Control Statutes*, K.S.A. §§65-171 *et seq.,* provides enforcement authority for cleanup of contaminated soils.

The *Kansas Drycleaner Environmental Response Act*, K.S.A. §§65-34-141 - 65-34-155 (1995), establishes the Drycleaning Trust Fund and provides for cleanup authorities and a priority list.

The *Voluntary Cleanup and Property Redevelopment Act*, K.S.A. §§65-34 -161 - 65-34-174 (1996), establishes a cleanup and property redevelopment program for low and medium risk contaminated sites.

Program Organization and Funding

The Kansas Department of Health and Environment's (DHE's) Bureau of Environmental Remediation (BER) is responsible for, among other things, federal and State Superfund cleanups, LUST, emergency response, above ground storage tanks, mine land reclamation, landfill remediation, and the voluntary cleanup program. The Remediation and Restoration Section deals specifically with hazardous substance site cleanups. Legal support is provided by the Office of Legal Services of the DHE.

Cleanup Activities

No information available.

Cleanup Funding

The State Environmental Response Fund is used for operations and maintenance and administration of the State's cleanup program. Cost recoveries are the significant source of monies for the fund. The statute also authorizes penalties and transfers as sources of revenue for this fund.

The State Water Plan-Contamination Remediation Account is the primary cleanup account. Taxes on water, pesticides, and fertilizer comprise the major source of revenue for the State Water Plan, which may be used for site investigation, studies and design, removals, emergency response, remedial actions, CERCLA match, operations and maintenance, and program administration.

The Drycleaning Trust Fund, which was established in 1995, may be used for studies and design, site investigation, removals, emergency response, remedial actions, and program administration. Funds are derived primarily from taxes on drycleaning solvents and a sales tax surcharge.

Cleanup Policies and Criteria

BER has established interim cleanup target concentrations for the cleanup of contaminated groundwater and soil. The State also uses risk assessment, water quality criteria, MCLs/MCLGs, background levels, and chemical specific health based standards to establish cleanup levels. Risk goals range from 10^{-4} to 10^{-6} for carcinogens and a Hazard Index of 1 is used for the risk assessment of non-carcinogens. The Voluntary Program specifies the use of risk assessment, background levels, MCLs/MCLGs, and chemical specific health-based standards. Land use-based cleanups are allowed under the cleanup program and specifically provided for in the voluntary program. The voluntary cleanup program uses risk assessment, groundwater standards, and MCLs.

Public Participation

The State generally follows the National Contingency Plan public participation procedures, which require public meetings and formal notice. After public participation, meetings for on-site investigations and cleanups are optional. The State has established guidelines on community participation.

Under the voluntary cleanup program, regulations provide for public notice requirements, provisions for public comment, and public meetings.

Enforcement

Liability

The ERA authorizes strict and retroactive liability and issuance of orders and injunctions against PRPs. Civil penalties are not available for a violation of an ERA order. Penalties are available under hazardous waste, nuisance, or water laws, and the State may use these authorities for enforcement (including cleanup of groundwater and soil). These penalties include $10K to $25K for hazardous waste, $10K for water pollution, and $5K for solid waste violations. The law does not authorize punitive damages.

Property Transfer

No property transfer provisions have been established, but the State does maintain a database of sites.

Voluntary and Brownfields Programs

Kansas established the *Voluntary Cleanup and Property Redevelopment Act* in 1996. With the exception of RCRA, NPL, and enforcement sites, all low and medium risk contaminated sites are eligible for the program. Applicants can include potential developers, prospective buyers, owners, operators, municipalities or other units of government, as well as PRPs. Incentives for participation are no further action letters and limited oversight is required until cleanup is completed. State participation is funded by reimbursement, and there is a $200 nonrefundable application fee. Reimbursements are drawn by the State against an initial deposit by the applicant. Category one sites (contamination limited to on-site soils) must deposit $1K; category two sites (contamination is onsite but has affected groundwater and soils) must deposit $2,500; category three sites (contaminated groundwater has migrated offsite) must deposit $5K. Kansas does not have brownfields authority; however, Kansas does have funding to provide brownfields assessments and technical assistance.

Long-term Stewardship and Institutional Controls

No information available.

MISSOURI

State Sites

Known and Suspected:	2,321
Identified as Needing Attention:	250
On Inventory or Priority List:	855

Statutory Authorities

The *Missouri Hazardous Waste Management Law*, Mo. Rev. Stat. §§ 260.350 - 260.575 (1977, as amended in 1980, 1983, 1985, 1987, 1988, and 1993), authorizes the Hazardous Waste Remedial Fund and a Voluntary Cleanup Program and provides for a priority list, property transfer, enforcement authority, strict liability, site access, administrative order authority, penalties, and punitive damages.

Brownfields, Abandoned and Redevelopment Projects, Mo. Rev. Stat. §§ 447.700 - 447.718 (1995), authorizes the State Brownfields Program.

Program Organization and Funding

The cleanup program in Missouri is administered by the Department of Natural Resources, Division of Environmental Quality, Hazardous Waste Program with 31 FTE staff, 23 for the State program and eight for the voluntary cleanup program. Other support agencies include the Division of Geology and Land Survey and the Missouri Department of Health. The Attorney General's office provides legal support with two FTEs. Funding for staff and administration of the State cleanup program is provided by federal grants (76 percent) and by the State's cleanup fund (23 percent). Staff and administration costs of the State voluntary cleanup program are funded 53 percent from fees and 46 percent from federal grants.

Cleanup Activities

Sites are listed on the State's priority list if they are abandoned or uncontrolled and hazardous waste has been illegally disposed on them or if hazardous waste was disposed of prior to regulations promulgated under the State's Hazardous Waste Law.

There are 160 cleanup actions underway at non-NPL sites. Of these actions, there are 142 cleanup activities in progress under the voluntary program. Nineteen (19) sites were completed during FY00 under the voluntary program, and 91 have been completed since the voluntary program's inception.

Cleanup Funding

The Hazardous Waste Remedial Fund had a balance of $2.9M at the end of FY00. During FY00, fund revenues were $2.3M and expenditures were $3.5M. The total monies obligated or encumbered at the end of FY00 were $6.5M. Funds are primarily provided by taxes on hazardous waste generators based on tonnage and the method of handling waste. There is a $1.5M per year cap on this tax. Fees on landfill waste and cost recovery are also significant sources of revenue. Penalties, fines, and interest also contribute to the Fund. The Fund may be used for site investigation, emergency response, removals, studies and design, remedial actions, CERCLA match, operations and maintenance, program administration, health studies, and acquisition of property.

Missouri also maintains a portion of its separate Hazardous Waste Fund to hold and disburse fees and funds deposited under the Voluntary Cleanup Program. The Fund contains up to several hundred thousand dollars at any one time, but funds are dedicated to oversight at particular sites.

Cleanup Policies and Criteria

The State does not use the same standards for all hazardous substance cleanup programs. The Department sets cleanup levels on a site-by-site basis. The State Health Department provides site-specific "any-use soil level" recommendations. The State is currently using Cleanup Action Levels in Missouri (CALM), which uses a three-tiered RBCA type approach encompassing future land use of the site (residential, commercial, and industrial). State water quality criteria, MCLs/MCLGs, risk assessment, background levels, groundwater standards, chemical-specific health-based standards, and soil standards may be used to set cleanup levels. Risk goals are usually set at 10^{-5}. Cleanups may take future land use into account. Cleanups under the voluntary program use the same standards.

Public Participation

Public notice, comment, and document availability are required by statute (Chapter 610). In addition, the *Missouri Hazardous Waste Management Law* provides for appeals through the Hazardous Waste Management Commission, which may convene a public hearing if a resolution of appeals cannot be negotiated. Public meetings, availability sessions, fact sheets, and news releases are commonly used to provide information to the public and to solicit input from the public. Public participation under the voluntary program is established by policy, rather than by statute, and includes public notice, public comment, and public hearings.

Enforcement

Liability

Strict and retroactive liability applies. Treble damages are available to the State. Violations of property transfer or change of use laws may result in a penalty of $1K per day.

Property Transfer

Property transfer provisions exist under Missouri's *Hazardous Waste Management Law* (Section 260.465). The law requires disclosure on the deed that a site has been used for the disposal of hazardous substances. Sellers must disclose the presence of hazardous substances on the site before transfer, and changes of property use must be approved by the State. The State must maintain a database of sites.

Voluntary and Brownfields Programs

A separate unit administers the Voluntary Cleanup Program, established by Mo. Rev. Stat. 260.565 in 1993 and effective in 1994. Participation is open to any site, except those with imminent and substantial threats to public health or the environment, sites where a PA/SI has been performed and NPL listing is pending, RCRA facilities, or sites where enforcement action is warranted. Participants pay the State's actual costs and overhead (actual x 2.5). The application fee is $200 and a $5K initial deposit is made toward the costs. Incentives for participation in the program include MOAs with the EPA and a no further action letter issued by the Department upon completion of a voluntary cleanup. The letter addresses only the contaminants identified and cleaned up, providing no additional liability protection for other substances.

The Brownfields Program is also established by statute, Mo. Rev. Stat. §§ 447.700 -447.718, and it began in August 1995. It is administered by the economic development agency, which consults with DNR under the voluntary cleanup program. Sites must have been abandoned for three years and be owned by a governmental entity in order to participate. Cleanup standards for brownfields sites are identical to those for the VCP. Thirty-five (35) sites have been identified for the program. Cleanup is currently underway at 22 brownfields sites. Ten sites have been redeveloped, and 32 sites have commitments for reuse or redevelopment. The State provides grants, loans, loan guarantees, and tax credits as incentives for participation in the brownfields program.

Long-term Stewardship and Institutional Controls

Missouri has a long-term stewardship program for the State voluntary cleanup program and the brownfield program. Monitoring, institutional controls, and engineered controls such as "capping" are included in the long-term stewardship program. Project managers conduct long-term stewardship activities as part of their normal duties. Approximately 0.1 FTE is dedicated to long-term stewardship activities. Funding for the long-term stewardship program is provided by the participant, who pays a one-time monitoring fee which depends on the restrictive covenant used and is up to the discretion of the project manager. For a restrictive covenant without an engineering control, the fee can be up to $5K; for a restrictive covenant with an engineering control, the fee can be up to $10K; and if the property evaluated used tier three site characteristics and modeling, the fee can be up to $15K.

The State does not maintain a database or information system that tracks institutional controls used at cleanup sites. Sites that have a restrictive covenant or engineered control are inspected annually by the assigned project manager. The results of these inspections are not made available to the public. Institutional controls have not been used as the sole remedy for a site. If the restrictive covenant is not followed or the engineered control is not maintained, the Certification of Completion letter may be rescinded.

NEBRASKA

State Sites

Known and Suspected: 475
Identified as Needing Attention: 225
On Inventory or Priority List: N/A

Statutory Authorities

Nebraska does not have a formal enforcement or Superfund program for cleaning up non-NPL contaminated sites. The *Environmental Protection Act* (Neb. Rev. Stat. § 81-1501 through §81-1533), makes it unlawful to cause pollution, but does not cover hazardous substance sites specifically. However, Nebraska uses Title 118 of its regulations, promulgated under § 81-1505, to prohibit pollution of groundwater and to set standards for cleanups.

The *Remedial Action Plan Monitoring Act* (§§ 81-15,181 to 81-15,188), established Nebraska's voluntary cleanup program effective January 1, 1995.

Program Organization and Funding

The Remediation Section of the Air and Waste Management Division of the Department of Environmental Quality (DEQ) has 13 FTE staff. Legal support is provided by a 0.5 FTE DEQ attorney. The majority of the Section's funding comes from federal grants (95 percent), the rest being supplied by State general funds (5 percent). The funding for the staff and administration of the voluntary cleanup program is provided mainly from fees (90 percent) and the rest from federal grants (10 percent).

Cleanup Activities

The State has no priority list of sites. There have been no cleanup activities at non-NPL sites except under the voluntary program, Title 118 authority, and agreements with the Department of Defense and United States Department of Agriculture. Fifteen (15) voluntary cleanup actions are currently underway, while one was completed in FY00. Three sites have been cleaned up since the start of the program.

Cleanup Funding

Nebraska has no State cleanup fund.

Cleanup Policies and Funding

Cleanup standards are assessed on a site-by-site basis under the voluntary cleanup program. In establishing site specific cleanup levels under the voluntary cleanup program, the State uses risk assessment carcinogens, risk assessment non-carcinogens, background levels, MCLs/MCLGs, groundwater standards, chemical-specific health-based standards, and land-use-based standards. Title 118 sets standards for groundwater cleanups, which are applied when appropriate. In establishing cleanup levels, the State uses risk assessment carcinogens, risk assessment non-carcinogens, background levels, MCLs/MCLGs, groundwater standards, chemical-specific health-based standards, and land-use-based standards. The State uses a risk standard of 10^{-6} for risk assessment carcinogens. The State selects cleanup standards at sites through Title 118 Appendix A, which assigns a remedial action class (RAC) for the pollution occurrence in three types of ground water classifications and then uses numerical standards (maximum contaminant levels) with a provision for an alternate cleanup level based on technological/economic analysis.

Public Participation

Title 118, applicable to groundwater cleanups, requires PRPs to submit a Remedial Action proposal based on a "detailed site assessment." The DEQ decision on the remedial action necessary, including cleanup levels, is placed on public notice with an opportunity for public comment and a hearing. No separate public participation requirements are specified in the State's voluntary cleanup statute.

Enforcement

Liability

State law and Title 118 authorize Nebraska to issue administrative orders and injunctions against PRPs causing groundwater pollution. The State may also seek judicial civil penalties.

Property Transfer

Nebraska has no property transfer provisions.

Voluntary and Brownfields Programs

Anyone is eligible to apply to Nebraska's voluntary cleanup program, established by statute in 1995. Participants may receive a letter from the State indicating that the site has been cleaned up to the State's satisfaction. The State's oversight costs are funded by cost reimbursement by applicants. The State's fees include a $5K application fee and a $5K participation fee, the latter applied to oversight costs.

Nebraska does not have a brownfields program, but brownfields sites are encouraged to join the State voluntary cleanup program and access federal brownfields grant funds. There is currently a pilot brownfields site in Omaha.

Long-term Stewardship and Institutional Controls

Nebraska does not have a long-term stewardship/institutional controls program, but it does use institutional controls on a site-specific basis. There are no staff designated to carry out a long-term stewardship program, but part of the responsibility of the project manager of a site is to evaluate whether institutional controls should be used. Only three sites have an institutional control in place, though several other sites have institutional controls proposed. The State plans to review these institutional controls either annually or as part of the five-year review. The State does not currently have an institutional control tracking system.

REGION 8

Colorado
Montana
North Dakota
South Dakota
Utah
Wyoming

COLORADO

State Sites

Known and Suspected: 495
Identified as Needing Attention: 200
On Inventory or Priority List: 53

Statutory Authorities

The *Hazardous Waste Sites Act* §§ 25-16-101 *et seq.* (1985, as amended 1988, 1990, 2000, 2001) authorizes Colorado's participation in the Federal CERCLA program and establishes the Hazardous Substance Response Fund and the Natural Resource Damages Fund, which are used to fund the State's participation in the federal program. The *Hazardous Waste Sites Act* also now gives the State authority to spend funds for site remediation (2000 amendment) and to implement certain institutional controls (2001 amendment). State enforcement authority is derived from other environmental statutes, such as the *Water Quality Control Act*, Colo. Rev. Stat. §§25-8-101 *et seq*., and the *Hazardous Waste Management Act*, Colo. Rev. Stat. §§25-15-101 *et seq.* The State's formal voluntary program is established by the *Voluntary Cleanup and Redevelopment Act*, Colo. Rev. Stat. §§25-16-301 *et seq.* (1995).

Program Organization and Funding

The Hazardous Materials and Waste Management Division within the Department of Public Health and Environment has 23 staff working in the State Superfund Program, with a total of 29 FTEs authorized. Approximately 11 attorneys from the Colorado Department of Law provide legal support to the program. Funding for the State program staffing and administration comes from federal grants (80 percent), from the State Hazardous Substance Response Fund (15 percent), and settlements (5 percent). Funding for the Voluntary Cleanup Program is provided by federal grants (20 percent) and fees gathered from the VCP program (80 percent).

Cleanup Activities

In Colorado cleanups are currently underway at 53 non-NPL sites. During FY00 40 cleanups were completed in the State with a total of 226 completed since the start of the program. Of the 53 cleanups currently underway 51 are under the Voluntary Cleanup Program. The majority of the cleanups since the beginning of the program have been performed under Colorado's VCP.

The *Hazardous Waste Sites Act* § 3-25-16-104.6 gives the State authority to spend funds for site remediation. The section also required the creation of an inventory of all sites and facilities at which hazardous substances have been disposed of in the State. Previously Colorado had used the EPA CERCLIS list as an informal priority list for the State to determine which sites will be included on the state priority list the State considers actual or threatened releases, the nature of contamination and the redevelopment potential of the site. There are 495 known or suspected non-NPL sites in Colorado, 200 of which have been identified as needing attention.

Cleanup Funding

The Hazardous Substances Response Fund, with a balance of $9M at the end of FY00, is available for site investigation, CERCLA match, studies and design, operations and maintenance, remedial actions, and program administration. Significant sources of the Fund include cost recoveries and waste fees; a minor source is taxes. During FY00, the State added $2.8M to the Fund. Obligations from the Fund totaled $23M at the end of FY00, of the monies paid out in FY00 $2.1M were spent on NPL sites and $37K on non-NPL sites.

The Natural Resource Damages Fund had a balance of $7M at the end of FY00. The fund is funded by NRDs settlements and interest, and may be used for natural resource restoration under CERCLA. During FY00, the State added $497K to the Fund. Obligations from the Fund totaled $925K in FY00. All the expenditures in FY00,

$286K, were for natural resource restoration projects. This Fund is only employed when cleanup activities are nearing completion or have been completed.

Cleanup Policies and Criteria

Colorado selects and applies State cleanup standards or criteria at sites based on established standards such as MCLs, Drinking Water Standards, and State Soil Cleanup Guidance, when available. If no standard exists, Colorado will accept cleanup levels when said levels have both been used at other sites in a similar situation and are risk based.

For the Voluntary Cleanup Program cleanup levels are determined using water quality criteria, MCLs, background levels, groundwater standards, soil standards, chemical-specific health-based standards, and land-use-based/RBCA standards, including health-based standards from other sites. The VCP uses risk levels of 10^{-6} and a Hazard Index of 1. An owner's stated land use is considered in determining cleanup levels for voluntary cleanups. Approval of the proposed remedy under the voluntary program will be rescinded if the land use changes.

Public Participation

Colorado has no formal public participation requirements. However, public notice, comment and hearings and meeting can be conducted on an ad hoc basis for the state program with public notice, also on an ad hoc basis, available for the voluntary program.

Enforcement

Liability

The State cleanup fund statute contains no enforcement authorities. Colorado may use other statutes (*e.g., Water Quality Control Act, Hazardous Waste Management Act*) to collect civil penalties for violation of cleanup orders.

Property Transfer

Colorado regulations require an owner or operator of a hazardous waste disposal facility to record, within 60 days after closure, a statement notifying potential purchasers that the property was used to manage hazardous waste. (6 Code of Colo. Regs. 1007-3 Section 264.119).

Voluntary and Brownfields Programs

The *Voluntary Cleanup and Redevelopment Act* of 1994 established a voluntary cleanup program under which all property owners, except for LUST, RCRA, and NPL sites, are eligible for participation. Incentives for participation in the program include: no-further-action determinations from the State upon completion and approval of cleanup; protection from Superfund liability under a Memorandum of Agreement with the federal EPA; and income tax credit. The State's participation is funded through a user fee of $2000, which covers the review of the applications.

In 1994 Colorado started to work with EPA on brownfields in the State. In 2000, Colorado enacted an amendment to the *Hazardous Waste Sites Act* that allows the State to expend funds to cleanup brownfields sites at a cost of up to $250K per year. The amendment contains general language addressing the types of sites that can qualify for State funds under the new brownfields amendment. Sites that come through the VCP program are usually considered brownfields sites, however, there is no special process that a site must go through to be considered a brownfields site as well as a VCP site. (Colo. Rev. Stat. Sec. 25-16-104.6). The brownfields program consists of 277 sites, of which 51 are currently being remediated and 226 have been redeveloped. Incentives for the brownfields program include tax credits.

Long-term Stewardship and Institutional Controls

Colorado's long-term stewardship provisions include monitoring, institutional controls, and enforcement. While Colorado does not have enforcement authority under its State Superfund program, the most recent amendments to

the *Hazardous Waste Sites Act* authorize the use of environmental covenants that run with the land. (Colo.Rev.Stat.Sec. 25-15-317 through 327). The Department may use environmental covenants under the VCP program if the owner requests it, however it is not compulsory. If the property owner fails to comply with an environmental covenant, the department may issue an order requiring compliance and may request that the Attorney General bring a suit to enforce the terms of the covenant. Colorado is required to maintain an inventory of all sites and facilities at which hazardous substances have been disposed of in the State under the 2001 amendments to the *Hazardous Waste Sites Act.* Beginning on July 1, 2001 the State is planning to track institutional controls at State cleanup program sites, RCRA cleanup sites, federal facility sites, and VCP sites through the database. The primary users of the system will most likely be the State with local governments as secondary users. The database will eventually be made available to the public, but currently the mechanism is uncertain. In addition, Colorado is required to create and maintain a registry of all environmental covenants, including any modifications or terminations of the covenants under the 2001 amendments to the *Hazardous Waste Sites Act.*

MONTANA

State Sites

Known and suspected:	N/A
Identified as Needing Attention:	288
On Inventory or Priority List:	208

Statutory Authorities

The *Comprehensive Environmental Cleanup and Responsibility Act* (CECRA), Mont. Code Ann. §§75-10-701 through 729 (1989, as amended 1991, 1993, 1995 and 1997), establishes the Environmental Quality Protection Fund and contains enforcement authority, and provisions for a priority list, long-term stewardship, citizen suit, and property transfer.

State Participation in CERCLA, Mont. Code Ann. §§75-10-601 through 627 (1983, as amended 1987, 1993, and 1995), establishes the Hazardous Waste/CERCLA Special Revenue Account and also contains enforcement, citizen suit, priority list, and property transfer provisions.

The *Voluntary Cleanup and Redevelopment Act* (VCRA), Mont. Code Ann. §§75-10-730 through 738 (1995, as amended 1997) authorizes Montana's voluntary cleanup program and contains property transfer provisions.

The *Controlled Allocation of Liability Act* (CALA) Mont. Code Ann. §§75-10-742 through 752 (1997), establishes the orphan share State special revenue account to help pay cleanup costs at non-NPL sites.

Montana also has statutory cleanup authority under the *Water Quality Act*, which provides for citizen suits and enforcement authority.

Program Organization and Funding

The Site Response Section within the Hazardous Waste Site Cleanup Bureau of the Environmental Remediation Division of the Department of Environmental Quality (MDEQ) has 22 FTE staff on federal and State cleanup programs. Four FTE attorneys provide legal support from the DEQ Legal Unit. Funding for State cleanup program administration comes from the State cleanup fund (31 percent), federal CORE/Cooperative Agreements (65 percent), and the special projects/direct PRP fund (4 percent). Funding for the voluntary cleanup program comes from the State cleanup fund (10 percent) and federal CORE/Cooperative Agreements (90 percent).

Cleanup Activities

Cleanup activities are currently underway at approximately 10 sites, four of which are part of the State's Voluntary Cleanup Program (VCP). During FY00 approximately three cleanup activities were completed, all of which were VCP sites. Cleanup activities have been completed at approximately 58 sites since the start of the cleanup program. Of these 58 sites, 17 sites were part of the Voluntary Cleanup Program. The 17 VCP sites include cleanups of portions of a facility, and of the 17 sites, seven have been delisted from the State Superfund List indicating that they have entered and completed the Voluntary Cleanup Program. Criteria for listing a site on the Montana site inventory is based on known or threatened releases that pose an unacceptable risk to human health or the environment.

Cleanup Funding

The financial information provided for the funds is based on FY97. The State indicated that the FY00 numbers should have remained constant, with the exception of minor changes to the account balances for inflation. The Environmental Quality Protection Fund (EQPF) is available for site investigation, CERCLA match, studies and design, removals, emergency response, remedial actions, operations and maintenance, natural resource restoration, and program administration. Significant sources of the Fund are cost recovery and interest. The Fund balance at the

end of FY00 was $742.5K, and additions to the Fund totaled $779.1K. A total of $664.7K was paid out, all at non-NPL sites, with a total of $5.3K obligated to non-NPL sites.

The Hazardous Waste/CERCLA Special Revenue Account is available for CERCLA match, removals, site investigation, studies and design, remedial actions, emergency response, operations and maintenance, grants to local governments, and program administration. The significant source of funds for the account is the interest earned annually by the Resource Indemnity Trust Fund. Many programs are funded out of this account that do not pertain to cleanups or other State Superfund activities, so information on the Fund balance, monies obligated or encumbered, and additions to the Fund was not available. The total amount paid from the Fund during FY00 for cleanup activities was $16.95K, all of which was spent at NPL sites.

The Direct PRP Fund may be used site investigation, emergency response, studies and design, removals, remedial actions, operations and maintenance, natural resource restoration, and program administration. Money in the account comes from private funds. The Fund balance at the end of the fiscal year was approximately $13.8M. Funds obligated or encumbered totaled $37K, with $21.2K obligated to NPL sites and $15.9K obligated to non-NPL sites. Approximately $20.4M was added to the Fund during FY00 and $6.6M was paid out. A total of $6.5M was spent at NPL sites, and a total of $139.8K was spent at non-NPL sites.

The final fund available for cleanups is the Orphan Share Fund. The Fund receives a significant amount of funding from taxes and user fees and is available for site investigation, studies and design, removals, emergency response, remedial actions, and monies for the defense of the orphan share.

Cleanup Policies and Criteria

The State uses site-specific risk assessment in conjunction with water quality standards and soil standards (based on federal soil screening levels). The State also considers background levels (either site-specific or published), MCLs/MCLGs, and groundwater standards. Numerical total risk goals are 10^{-5} for water quality, 10^{-6} for screening soils, and 10^{-5} for soils that have undergone a thorough, site-specific risk assessment. Cleanups under CECRA must demonstrate acceptable mitigation of risk and be protective of the health, safety, and welfare of the public and the environment. The statute also requires that the remedy be effective, reliable, cost-effective, and technically feasible. Cleanup criteria are the same for the State and the voluntary cleanup programs.

Montana considers future land use in determining cleanup standards and employs current zoning, local ordinances, past and current uses as factors in determining standards. Deed restrictions and stipulations in no further action letters are used to maintain specified land uses.

Public Participation

CECRA requires public notice and comment for remedial actions, administrative orders, and consent decrees. CECRA also requires notice to local governing bodies and city commissioners and, at their request, a public meeting must be held. The *Voluntary Cleanup and Redevelopment Act* provides for notice, comment, and public meetings on voluntary cleanup plans. The DEQ typically allows for more participation than is required by CECRA, usually in the form of additional meeting and public comment if there is a lot of public interest in the site.

Enforcement

Liability

Under the *Controlled Allocation of Liability Act* (1997), the State may impose strict, joint and several, proportional, and retroactive liability. Amendments to CERCA in 1997 allow a potentially liable party under the State cleanup program or any party who has received approval of a voluntary cleanup plan to petition for allocation of liability. Once this occurs, the DEQ is required to appoint a lead potentially liable party and allocate liability among all parties. The lead potentially liable party may petition for hardship and be reimbursed with orphan share money once the cleanup has been completed. (CALA § 75-10-742 through 752).

MDEQ is required to make a good-faith effort to have RPs pay for cleanup activities before expending State cleanup funds. The State may issue a unilateral order, negotiate a consent order, institute a civil action, or clean up a

site using State funds. The State may impose administrative penalties of $1K per day and civil penalties of up to $10K per day per violation. The State may also collect double punitive damages plus costs from RPs.

Property Transfer

Montana has a publicly available database with the locations and descriptions of hazardous substance sites and can apply a lien when State funds are expended.

Voluntary and Brownfields Programs

Since May 1, 1995, Montana has had a voluntary cleanup program established by the *Voluntary Cleanup and Redevelopment Act*, §§75-10-730 through –738, Mont. Code Annotated. Any person or entity is eligible to participate in the voluntary cleanup program; all sites where there has been a release or threatened release of a hazardous or deleterious substance that may present an imminent and substantial endangerment to the public health, safety, or welfare or the environment are eligible. RCRA sites, sites where an order has been issued or consent decree has been entered into, sites that are the subject of an agency order, LUST sites, and sites on the NPL are ineligible. Once the State receives an application for a site it has a mandatory 30-day turnaround provision, which often has the effect of diverting staff resources away from high priority sites that do not have such a provision. State participation includes review of the application and oversight of the VCP project. The program is funded by a federal grant, the Environmental Quality Protection Fund, and mandatory cost recovery. There is no standard fee for participation in the program; however the participant must reimburse the State for all administrative costs. Incentives for participation in the program include enforcement stays and no further action or closure letters.

Montana does not have a separate brownfields program, however it encourages the participation of brownfields in the Voluntary Cleanup Program.

Long-term Stewardship and Institutional Controls

Montana has provisions for long-term stewardship under both the State Cleanup Program and the Voluntary Cleanup Program that include monitoring and the use of institutional controls. The State maintains a database that does not yet track institutional controls, however, the State intends to add a category within the database to track the use of institutional controls. Sites where institutional controls have been implemented are not formally reviewed however, if a DEQ staff member is in an area where there is a site they may drive by and check the site. Additionally, the DEQ will investigate a site where an institutional control is employed if there is a complaint about it.

NORTH DAKOTA

State Sites

Known and Suspected:
Identified as Needing Attention:
On Inventory or Priority List: N/A

Statutory Authorities

North Dakota does not have a formal program for cleaning up non-NPL contaminated sites. The *Hazardous Waste Management Act* (HWMA), N.D. Cent. Code §§ 23-20.3-01 – 23-20.3-10 (1981, as amended 1983, 1987, 1991, 1994), provides enforcement authority that may be used in conjunction with cleanups.

The *Water Pollution Control Law* (WPCL), N.D. Cent. Code § 61-28-01 *et seq.* (1967), also provides enforcement authority that may be used in State cleanups.

In 1989, the State enacted the *Environmental Quality Restoration Fund*, N.D. Cent. Code §§23-31-01 to 03. This fund applies to all environmental programs, and provides cost recovery authority.

Program Organization and Funding

The Division of Waste Management in the Environmental Health Section of the Department of Health administers hazardous substance cleanups. Within this Division, five FTE staff work on superfund cleanups, but no single employee works solely on superfund issues, and only .5 FTE work on non-NPL sites. In addition, one FTE attorney in the Attorney General's office provides legal support to the Department for all environmental programs. EPA grants (75 percent) and State general funds (25 percent) provide funding for program administration.

Cleanup Activities

North Dakota does not maintain a site cleanup priority list.

Cleanups at nine non-NPL sites are currently underway in North Dakota. Cleanup activities were completed at eight sites during FY00, and 43 sites have been cleaned up since the start of the program.

Cleanup Funding

The Environmental Quality Restoration Fund provides funds for site investigations, studies and design, removals, emergency response, and remedial actions. At the end of FY00, the Fund balance was $163K. Major sources of funds include cost recovery and interest. Penalties are a minor source of funds.

Cleanup Policies and Criteria

The State employs water quality criteria, background levels, groundwater standards, MCLs, and soil standards in conjunction with site-specific risk assessments to determine cleanup levels.

Land use is considered in determining cleanup levels. Assumptions about future land use are based on historical use, zoning, and the location of sites. North Dakota uses deed restrictions and disclosure of historical information to ensure the maintenance of a specific land use.

Public Participation

No statutory requirement for public participation exists, but the Division provides public notice and provides local officials with information about a site on an ad hoc basis.

Enforcement

Liability

The Attorney General's Office selects liability on a case-by-case basis. HWMA authorizes retroactive liability and a choice between joint and several and proportional liability. HWMA provides for civil penalties of up to $25K per day per violation, and the WPCL provides for civil penalties of up to $10K per day per violation.

Property Transfer

The State has no property transfer requirements.

Voluntary and Brownfields Programs

The State does not have a voluntary cleanup or brownfields program.

Long-term Stewardship and Institutional Controls

The State does not have a long-term stewardship or institutional controls program.

SOUTH DAKOTA

State Sites

Known and Suspected: 1,342
Identified as Needing Attention: 229
On Inventory or Priority List: N/A

Statutory Authorities

The *Regulated Substance Discharge Law*, S.D. Codified Laws Ann. Chapter 34A-12, establishes the Regulated Substance Response Fund, which provides for a cleanup fund, strict liability, administrative order authority, civil injunctive relief, cost recovery, and liens.

The *Hazardous Waste Management Act*, S.D. Codified Laws Ann. Chapter 34A-11, establishes standards for treatment, storage and disposal of hazardous wastes, and provides for site access, and civil and criminal penalties.

The *Water Pollution Control Act*, S.D. Codified Laws Ann. Chapter 34A, prohibits the degradation of all ground and surface waters of the State, establishes standards for groundwater remediation, and imposes criminal and civil penalties for violations.

The *Environmental Protection Act*, S.D. Codified Laws Ann. Chapter 34A, allows responsible parties to enter into voluntary compliance and settlement for cleanups.

The *Environmental Livestock Cleanup Fund*, S.D. Codified Laws Ann. Chapter 34A-2B, provides for a cleanup fund and long-term stewardship.

The *Solid Waste Management Act*, S.D. Codified Laws Ann. Chapter 34A-6, allows for enforcement authorities.

Program Organization and Funding

The Department of Environment and Natural Resources (DENR) is the lead agency for State cleanups. The Groundwater Quality Program within the Division of Environmental Regulation has 2.5 FTE staff dedicated to cleanup activities and the Attorney General's Office provides legal support for the program with one FTE attorney. Federal grants provide 90 percent of funding for staff and administration of the State cleanup program and of the voluntary cleanup program while the State general fund provides 10 percent of the funding.

Cleanup Activities

Cleanups are currently underway at 223 sites, and cleanup activities were completed at 127 sites in FY00. Cleanup activities have been completed at 1,101 sites since the start of the program. Under the voluntary cleanup program, a cleanup is currently underway at one site, and no site cleanups have been completed under the program.

South Dakota maintains an inventory that consists of all of sites that have been or are currently being handled under the State cleanup program, including sites with reported releases and sites with removals or response activities underway. Discharge of a regulated substance qualifies a site for listing on the State's inventory. However, the State does not maintain a priority list or inventory of priority sites.

Cleanup Funding

The Regulated Substance Response Fund had a balance of $2M at the end of FY00. Additions in the amount of $879K were made to the Fund during the fiscal year and $1.2M were expended. The major source of funds is penalties, and the minor sources are accrued interest and cost recovery. The Fund may be used for a CERCLA match, emergency response, removals, site investigations, studies and design, remedial actions, natural resource restoration, and operations and maintenance activities.

The Environmental Livestock Cleanup Fund had a balance of $800K at the end of FY00. Additions in the amount of $22K were made to the Fund during the fiscal year. The major source of funds is appropriations, and the

minor sources are penalties, cost recovery, and accrued interest. The Fund may be used for site investigation, studies and design, operation and maintenance, removals, emergency response, remedial actions, and natural resource restoration.

Cleanup Policies and Criteria

The State uses the same cleanup standards for all hazardous substance cleanup programs, including RCRA corrective actions and LUST cleanups. The State employs groundwater standards, soil standards, background levels, water quality criteria, land-use-based risk assessment, and MCLs/MCLGs in conjunction with site-specific risk assessments to determine cleanup levels. The State uses a risk goal of 10^{-6} for risk assessment carcinogens and non-carcinogens and a risk goal of 10^{-5} for land-use-based risk assessment. In selecting and applying State cleanup standards or criteria at sites, the State evaluates the site and compares it to State standards and risk-based cleanup levels. The State relies on the ASTM ES 38-94 (and updates) methodology for RBCA in making assumptions about future site-specific land use when using a land use or risk-based cleanup standard.

Public Participation

State policy establishes provisions for public notice, public comment, and hearings/meetings. S.D. Codified Laws Ann. §1-40-31 provides for document disclosure for all DENR programs.

Enforcement

Liability

Strict and joint and several liability standards apply to State cleanups, as appropriate. State law allows for retroactive liability, and provides for civil penalties up to $10K per day per violation. South Dakota does not have any provisions for punitive damages.

Property Transfer

Under S.D. Codified Laws Ann. Chapter 43-4-42 through 43-4-44 inclusive, the State requires a seller to disclose the presence of hazardous substances on a property. South Dakota's residential property transfer law contains requirements for disclosure of environmental hazards prior to transfer of certain residential properties. The State also maintains a database of known or listed cleanup sites. The State can apply a lien when State funds are expended.

Voluntary and Brownfields Programs

The State does not have a voluntary or brownfields program but assists local communities in obtaining federal brownfields funding and will enter into voluntary cleanup settlements on a case by case basis under S.D. Codified Laws Ann. Chapter 34A-10-17. One brownfields site has been identified by the State. The State is currently developing a State voluntary cleanup program.

Long-term Stewardship and Institutional Controls

The State does not have a long-term stewardship or institutional controls program.

UTAH

State Sites

Known and Suspected:	390
Identified as Needing Attention:	50
On Inventory or Priority List:	13

Statutory Authorities

The *Hazardous Substances Mitigation Act*, Utah Code Ann. §19-6-301 *et seq.* (1991, as amended 1995), provides enforcement authority, a priority list, and voluntary cleanups, as well as establishes the Hazardous Substance Mitigation Fund (HSMF).

The *Voluntary Release Cleanup Act*, Utah Code Ann. §19-8-101 *et seq.* (1995), provides for voluntary cleanups and authorizes the State to grant waivers of liability.

Program Organization and Funding

The Superfund Branch of the Department of Environmental Quality (DEQ), Division of Environmental Response and Remediation has 35 FTE staff members, the full number of authorized FTEs. Legal support is provided by 1.5 attorneys in the Division of Environmental Response and Remediation and 0.5 attorneys in the Utah Attorney General's Office, who work part-time on Superfund and other cleanup issues. Funding for the State program's staffing and administration is provided by the State general fund (20 percent) and federal grants (80 percent). The same breakdown of funding sources applies to the Voluntary Cleanup Program.

Cleanup Activities

With the exception of emergency response actions, Utah DEQ has only worked on NPL sites under its State cleanup program. While it is possible for the State to identify sites on their own, the department does not have the ability to compel cleanup under any State statutes. There is no funding for the State to perform any non-NPL cleanups however, the State is authorized and funded to conduct emergency response actions, which is the only portion of the State statues that Utah employs. In FY00 the State performed one emergency action and three support activities (incidents where the State provided on-site assistance), since 1989 Utah has performed seven emergency actions and 126 support activities. The standard for placing a site on the State's priority list is that it must be on the NPL, or meet the federal HRS scoring criteria for the NPL. Currently, Utah's priorities list consists of 13 sites.

Cleanup activities are currently underway at 34 sites under the voluntary cleanup program. Five (5) site cleanups were completed in FY00 and cleanup activities have been completed at 22 sites since the inception of the program.

Cleanup Funding

The HSMF had a balance of $400K at the end of FY00. Monies obligated or encumbered totaled $19M. Of this amount, $13.9M was obligated to non-NPL sites and $5.2M to NPL sites. The Fund may be used for site investigation, studies and design, removals, emergency response, CERCLA match, natural resource restoration, and operations and maintenance. Significant sources of the Fund include appropriations and NRD settlements, while interest and voluntary private contributions constitute minor sources of funding. The State did not add any money to this Fund in FY00.

The Environmental Voluntary Cleanup Fund is established to receive fees from the Voluntary Cleanup Program. This fund does not carry a balance because Utah receives reimbursement from program participants that is then placed in the fund to pay to the State's costs to participate in voluntary cleanups. This fund is can only be used for oversight of the Voluntary Cleanup Program.

Cleanup Policies and Criteria

Cleanup standards are established based on a risk analysis of the individual site and the projected future land use. Other standards such as MCLs/MCLGs, groundwater standards, and water quality standards are applied as appropriate. Risk goals are 10^{-4} to 10^{-6} for the proposed land use. For the Voluntary Cleanup Program the State uses a risk standard of 10^{-4} to 10^{-6} for carcinogens with a hazard index of less than 1 for non-carcinogens. The voluntary cleanup program also applies water quality criteria based on guidance; MCLs/MCLGs and groundwater standards as established by State rule; soil standards based on federal soil guidance; chemical specific heath-based standards according to region 3 Screening Criteria; and land-use-based standards with a risk standard of 10^{-4} to 10^{-6}.

An owner's intended use and local government zoning determine future land use. If the land use changes, cleanup standards may become more stringent. A certificate of cleanup completion that specifies any land use restrictions is filed in the appropriate county recorder's office.

Public Participation

Utah's hazardous substance cleanup program has no formal public participation requirements, but as a policy follows NCP guidelines, which provide for public notice and comment, public meetings, and document availability. Public education is required under the *Voluntary Release Cleanup Act* however because no regulations have been promulgated there is no specified requirement for what public participation must entail. Utah has made a policy decision to make all documents available and to publish their availability. Under the State program however, there are no provisions for document availability. This has yet to become an issue in the State because they have not conducted any regular cleanups under this statue.

Enforcement

Liability

The State uses strict and proportional liability standards. The State may impose civil penalties of up to $10K per day per violation, but cannot collect punitive damages. The State may only impose liability under State law for releases that occurred after March 18, 1985.

Property Transfer

Under the *Voluntary Release Cleanup Act*, Utah requires disclosures in the deeds of properties cleaned up under the voluntary program.

Voluntary and Brownfields Programs

Utah's voluntary cleanup program was established under independent statutory authority in 1997 with the passage of the *Voluntary Release Cleanup Act*. Since 1991, the State had conducted a voluntary cleanup program for contaminated sites as part of the general State cleanup program. Any responsible party is eligible to participate in the program. All sites are eligible to participate in the program except for NPL sites, RCRA corrective action sites, and sites with pending enforcement actions. Only participants in the program who are not RPs under the *Hazardous Substances Mitigation Act* may be eligible for a State-issued waiver of liability after a successful cleanup. The program is funded through a $2K application fee, which covers State review of the application and oversight of the project. The participant also pays any additional State oversight costs. The State does not have a brownfields program however, the State offers the Voluntary program as a mechanism to get governmental participation in the cleanup of contaminated sites.

Long-term Stewardship and Institutional Controls

Utah employs long-term stewardship provisions for its State, voluntary, and RCRA cleanup programs that include monitoring, institutional controls, and review/reevaluation of sites. The State maintains a database that tracks institutional controls employed at voluntary cleanup sites that is primarily used to ensure that the remedy remains protective. The database is available to the public upon request.

WYOMING

State Sites

Known and Suspected:
Identified as Needing Attention: N/A
On Inventory or Priority List: N/A

Statutory Authorities

The *Wyoming Environmental Quality Act*, Wyo.Stat.Ann. 35-11-101 et. Seq. (1973, as amended through 2000), was amended in 2000 to include the *Voluntary Remediation of Contaminated Sites Act*, Wyo.Stat.Ann. Section 35-11-1600 to -1613, which gives the Wyoming Department of Environmental Quality (DEQ) authority to oversee voluntary cleanups. In addition the *Environmental Quality Act* creates an orphan sites program, establishes a cleanup fund, enforcement authorities, and citizen suit provisions.

Program Organization and Funding

The Solid and Hazardous Waste Division within the Department of Environmental Quality (DEQ) is primarily responsible for hazardous substance cleanup. Within the Division approximately five FTE staff work on hazardous waste permitting, corrective action, enforcement and compliance issues. The Attorney General's office provides legal support with one FTE attorney. Funding is not currently provided for staff and administration under the State cleanup program. The voluntary remediation and brownfields programs are funded through the State general fund (approximately 75 percent) and fees (approximately 25 percent).

Cleanup Activities

Wyoming has not to date performed any cleanup activities at non-NPL sites under its State cleanup program. Cleanups are currently underway at 11 VRP sites. No cleanups have been completed yet. While Wyoming does not maintain a site priority list, the *Wyoming Environmental Quality Act* has required the DEQ to create an inventory of known sites by October 2002. The majority of releases in the Wyoming are petroleum-based.

Cleanup Funding

While the DEQ is authorized to use funds from the Trust and Agency Account Fund to remedy and abate immediate public health and environmental emergencies and hazards, the State Legislature has not yet identified a funding mechanism. Responsible parties under VRP are responsible for funding all cleanup activities. Voluntary Remediation Program legislation in March 2000, however, did establish an "orphaned site program," but, like the Trust and Agency Account Fund, a funding mechanism has yet to be identified.

Cleanup Policies and Criteria

In Wyoming, when selecting and applying State cleanup standards or criteria at cleanup sites, the State uses unrestricted use standards; soils standards determined through evaluation of risks to human receptors, ecological receptors and groundwater; and groundwater remediation to drinking water standards. Risk assessment carcinogens (10^{-6}), risk assessment non-carcinogens (hazard index level of less than or equal to 1), background levels, water quality criteria, MCLs/MCLGs, and groundwater standards are considered when establishing cleanup levels and risk standards. Wyoming is currently developing policy for the use of soil standards and chemical specific health standards in establishing cleanup levels. The same standards are used for both the VRP and the State program.

Land-use-based cleanup is approved by the State only when a responsible party has received a "use control area" designation from the local government. The designation of a "use control area" is exclusively used by the VRP.

Public Participation

Wyoming follows Federal CERCLA regulations and policies on public participation. The hazardous waste program developed policy on enhanced public participation during the RCRA corrective action process. In addition, the State uses heightened public participation at significant sites, and in general citizens may comment on rulemaking, permitting, and corrective action decisions. The VRP statute provides for public notice, public comment, and hearings and meetings.

Enforcement

Liability

The State does not have specified liability standards. The State may impose civil penalties of up to $10K per day per violation. For willful and knowing violations, penalties of up to $25K per day per violation are available. The State may not impose retroactive or punitive damages.

Property Transfer

The State maintains a database of known or listed sites as well as restricts the use of hazardous waste sites undergoing corrective actions until final cleanup objectives are attained.

Voluntary and Brownfields Programs

Established in March 2000, Wyoming's Voluntary Remediation Program (VRP) is administered through the individual cleanup programs of the DEQ, including the groundwater cleanup program and RCRA program. All sites that require corrective action are eligible for the program except NPL, LUST, and abandoned mine sites. Incentives for the program include no further action letters, covenant not to sue, certificates of completion, and potentially land-use-based soil standards if a local government designates a "use control area". The State's participation in the program is financed by general funds and fees including a fee of $35 an hour that covers all aspects of the State's participation in the program. The State brownfields program is covered by the VRP and includes RCRA TSDFs. Eleven sites have been identified within the brownfields program, with cleanup currently under way at two sites, and one site with a commitment for reuse or redevelopment.

Long-term Stewardship and Institutional Controls

Wyoming's primary form of institutional controls falls under the Voluntary Remediation Program, which allows a responsible party to petition the local government to create "use control areas" by ordinances. Wyoming also allows for layering of institutional controls. Although the State does not currently track institutional controls at cleanup sites, the DEQ has future plans to create such a database.

REGION 9

Arizona
California
Hawaii
Nevada

ARIZONA

State Sites

Known and Suspected: 71
Identified as Needing Further Evaluation: 38
On Inventory or Priority List (Registry): 33

Statutory Authorities

The *Environmental Quality Act*, Ariz. Rev. Stat. (ARS), Title 49, Ch.2, Section 281 to 298 (1986, as amended 1987, 1990, 1992, 1994, 1995, and substantially amended in 1997), establishes the Water Quality Assurance Revolving Fund (WQARF) and provides for strict and proportional liability, administrative orders, abatement and remedial actions, injunctive actions, water supply replacement, civil penalties, cost recovery, treble damages, and voluntary cleanups, and requires the Department of Environmental Quality to set risk-based remediation standards for residential and nonresidential use. The 1992 Amendments, ARS, Title 49, Ch. 290 §10, Ch. 291 §8 and Ch. 300 §5, identify sources of Fund monies, authorize uses of the Fund, set forth remedial action criteria, and provide additional enforcement authority. ARS, Title 49, Ch. 295 (1992) provides for environmental lien authority. The 1997 amendments provided for a new registry, replacing the former priority list, changed the liability standard to proportional, and provided detailed authority for voluntary cleanups. The *Environmental Liens* (A.R.S. 49-295) statute provides for enforcement authorities and contaminated property transfer and notice.

Voluntary cleanups are provided for under the *Greenfields Pilot Program,* Ariz. Rev. Stat. (ARS), Title, 49, Section 153 to 157/1997 and the *Voluntary Remediation Program* (A.R.S. 49-171 to 188) The *Voluntary Remediation Program* also provides for brownfields and contaminated property transfer and notice. Brownfields are also provided for under the *Brownfields Cleanup Revolving Loan Fund Program* (A.R.S. 49-295).

Program Organization and Funding

The Superfund Programs Section of the Department of Environmental Quality (DEQ) administers the State's hazardous substance cleanup programs. The Voluntary Remediation Program is administered by the Capacity Development Section, Voluntary Sites Unit (VSU). Combined, these sections have 65 FTE staff, with a total of 69 FTEs authorized. The Office of the Attorney General provides seven attorneys.

The State Cleanup program receives all of its funding from the State Cleanup Fund, also known as WQARF. The State Cleanup Fund (50 percent), federal grants (41percent), and fees/targeted site assessment grants (9 percent) fund the VRP program.

Cleanup Activities

Cleanup actions are currently underway at 68 non-NPL sites, with 54 sites completed since the start of the program, four of which were completed in FY00. Of these, most are under the Voluntary Remediation Program, where cleanup actions are underway at 58 VRP sites. Fifty (50) sites have been completed since the start of the VRP in 1992, with four completed in FY00.

Cleanup Funding

The WQARF (4000/4010 Account) had a balance of $17.8M at the end of FY00. Additions totaled $3.7M during FY00 and the total amount of monies obligated or encumbered for non-NPL sites in FY00 was $13.4M. Expenditures were $108K for non-NPL sites and $14.8M for NPL sites. Appropriations and cost recovery constituted a significant contribution to the Fund with penalties, bonds, waste fees, taxes, interest, transfers and private funds providing a minor contribution. Expenditures from the WQARF may be used for site investigation, CERCLA

match, studies and design, operations and maintenance, removals, emergency response, remedial actions, program administration, remediation oversight, and document review.

The Emergency Response Fund had a balance of $13K at the end of the last fiscal year, with a total of $236K paid out for non-NPL sites. Transfers are a significant source of funding and penalties are a minor source of funding. Expenditures from the Fund are limited to program administration.

The Voluntary Remediation Fund expended $74K in FY00. The fund is financed by transfers and user fees and may be used for program administration, remediation oversight and document review.

Cleanup Policies and Criteria

The remedies for cleanups are selected on a site-by-site basis. With orphan sites, the State uses MCLs/MCLGs and aquifer standards, which are equivalent to both water quality criteria and groundwater standards. If responsible parties are conducting the cleanup they may reach agreement with the State whereby the parties use a risk-based cleanup standard. The State applies risk assessment for carcinogens/non-carcinogens (10^{-6} to 10^{-4} and a Hazard Index of less than or equal to 1); background levels; aquifer standards; MCLs/MCLGs; soil standards and chemical-specific health-based. Soil remediation standards may be site-specific (10^{-6} to 10^{-4} for carcinogens or Hazard Index of less than 1) or off-the-shelf (based on 10^{-6} for known carcinogens and 10^{-5} for others). The State uses the same RCRA and LUST.

For the VRP program, the State applies risk assessment for carcinogens and non-carcinogens (10^{-6} to 10^{-4} and a Hazard Index of less than or equal to 1), water quality criteria, groundwater standards, soil standards, and chemical-specific health-based standards. The DEQ meets with the DWR to examine the planed future land use. In addition, the Agency will conduct public meetings in order to decide if it will perform a risk-based cleanup. For soil cleanups to less than residential standards, a declaration of environmental use restriction (DEUR) is recorded after the cleanup (ARS §49-152 and 158).

Public Participation

Both State cleanup and voluntary programs provide for public notice, comment, and hearings per ARS 49-289 and ARS 49- 282.05, respectively.

Enforcement

Liability

Liability is proportional and retroactive. Civil penalties are $5K per day and treble damages are authorized.

Property Transfer

Arizona Real Estate Department rules require an agent to disclose any material fact that may affect the value of a property. The Real Estate Department has a policy stating that environmental issues, such as actual or potential contamination, are material facts, and advises owners to disclose their existence. The ADEQ is required to maintain a database of contaminated sites.

Voluntary and Brownfields Programs

Arizona's Voluntary Remediation Program (VRP), was established in 1992, expanded in 1997, and renewed in 2000. The transfer of funds from the WQARF to the VRP was intended to assist the program in its establishment, and the original hope was to have the voluntary program self-sufficient by 2000. The renewed transfer of funds provides the VRP with $350,00 a year until 2003. Any site that has soil and/or groundwater contamination, except those that are under an enforcement action by another remediation program, is eligible to participate. Incentives for participation include an expedited process and a single point of contact for projects that involve more than one program. Participants fund the State's participation in the program through application fees and reimbursement. For its services, the State charges a $110 per hour fee that covers application review and modification, site inspection,

public meetings, notice, review, and response to comments, Remedial Action Plan review/modifications, and no further action report review/modifications and meetings.

The State's brownfields program covers sites that are abandoned or idled as well as underused industrial and commercial facilities where redevelopment is complicated by real or perceived environmental contamination by hazardous substances. To date, only two sites have applied for the tax credit under the *Brownfields Cleanup Revolving Loans Fund Program* (A.R.S. 49-128). Although many of the sites in the voluntary program could be considered brownfields, the owner must first apply for the tax credit for a site to be designated as a brownfield by the State. The VRP administers EPA-funded environmental assessment grants, EPA-funded environmental cleanup loan, and certifies eligibility for the federal brownfields tax incentive.

Long-term Stewardship and Institutional Controls

Arizona has a long-term stewardship program for the State, voluntary and brownfields cleanup programs that includes monitoring, institutional controls, review and reevaluation, and Declaration of Environmental Use Restrictions that run with the land. The program maintains a database that tracks institutional controls and will eventually be made available to the public via the ADEQ website. The database tracks both the implementation and monitoring of institutional controls at State cleanup program, VRP, brownfields and federal facility sites. The primary users of this database are internal staff, property owners, and consultants.

CALIFORNIA

State Sites

Known and Suspected:	3,603
Identified as Needing Attention:	522
On Inventory or Priority List:	242

Statutory Authorites

The *Hazardous Substance Account Act*, Cal. Health and Safety Code §§25300 *et seq.* (1981, as amended every year 1982 - 1984 and 1986 - 1995), which includes the *Hazardous Substance Cleanup Bond Act of 1984*, §§25385 - 25386.6, establishes the Site Mitigation Program and provides for cleanup funding, enforcement authority, priority list, water replacement, long-term stewardship, and voluntary cleanup. Property transfer disclosure requirements and natural resource restoration provisions are included at §25359.7, and §25352 of the Cal. Health and Safety Code, respectively.

Program Organization and Funding

The Department of Toxic Substances Control's (DTSC's) Site Mitigation Program has 311.9 FTE staff in four regional offices and headquarters that work on NPL and non-NPL sites. There are a total of 7.9 FTE attorneys assigned to the Site mitigation Program through the Department's Office of Legal Counsel and Criminal Investigation, and the Attorney General's Office. The Department also works with the State Water Resources Control Board and the Regional Water Quality Control Boards. The Regional Water Quality Control Boards also undertake their own cleanups in cases of groundwater contamination. In FY00, the Site Mitigation Program staff and administration costs, both for voluntary and State cleanups, were funded by the Hazardous Waste Control Account (HWCA)/Toxic Substances Control Account (TSCA) (75 percent), federal grants (20 percent), and reimbursement monies (5 percent).

Cleanup Activities

The State maintains a list of the active sites, according to risk priorities. Although California does not track activities that are currently underway, it tracks completions. Nineteen non-NPL sites were completed in FY00, and 298 have been completed since the program inception. Of these totals, cleanup activities were completed through the voluntary program at 82 sites, including 11 in FY00.

Cleanup Funding

The Hazardous Waste Control Account (HWCA)/Toxic Substances Control Account (TSCA) had a balance of $80M at the end of FY00. The fund may be used for site investigation, studies and design, removal and remedial actions (prohibited until RPs are given notice and opportunity to clean up), emergency response, operations and maintenance, State CERCLA match, program administration, and enforcement against RPs. Appropriations are a significant source of funding and user fees are a minor source.

The Reimbursement Fund had a balance of $3.8M at the end of FY00. Funding comes from appropriations by the State and user fees. This fund can be used for site investigation, studies and design, removals, operations and maintenance, long-term stewardship, and remedial actions.

No money was appropriated for the Chaptered Bond Fund during FY00.

Cleanup Policies and Criteria

The DTSC has one set of standards to cover all cleanup sites, including voluntary cleanups. California sets toxic risk levels at 10^{-4} to 10^{-7}, with 10^{-6} as a point of departure. Remedial action plans must be based on, among other things, the effect of contamination on beneficial uses of resources, the effect of alternative remedial action measures on groundwater, site-specific characteristics, and cost effectiveness. The State has promulgated MCLs for many water contaminants and a number of other standards, including health-based specific chemical criteria. The State also uses background levels. Land use restrictions are required if exposure settings demonstrate the need or if the property is not remediated for unrestricted residential use. Regulations regarding land use restriction covenants are under development.

Public Participation

The DTSC publishes a Public Participation Manual for all people undergoing a site cleanup. Under statute and regulations, the Department must hold at least one public meeting before adopting a remedial action plan, publish public notices, and must review and consider public comments. Anyone affected by a removal or remedial action must be provided with the opportunity to participate in the Department's decision-making process. The Department must develop, and make available to the public, a schedule of activities for each site. These policies apply to both State hazardous substances and VCP sites. In addition, legislation has been proposed for VCP/Brownfields sites to also have Citizen Advisory Boards, but currently there is no funding in place.

Enforcement

Liability

The State has strict and proportional liability standards. DTSC generally proceeds under CERCLA to recover its costs. The State has civil and administrative penalty authority for up to $25K per day for violating an order/agreement, and criminal penalties up to $25K per day and/or imprisonment for up to one year. Treble punitive damages are available, but the State does not have the ability to enact retroactive liability. Legislation allows cooperating RPs to sue non-cooperating RPs for three times their share of cleanup costs. The cooperative RPs get 50 percent of the award and the Department gets 50 percent of the award. An RP must be given notice and opportunity to assume cleanup responsibility, and then fail to comply, in order for the State to undertake a cleanup or enforcement activity unless a release of a hazardous substance has occurred, or is about to occur, or if immediate corrective action is needed. An RP may seek judicial review of the final remedial action plan and there is a citizen suit provision under Proposition 65.

Property Transfer

California requires disclosures of contamination and deed recordation before the transfer of nonresidential property. The State's residential property transfer law also requires the seller to disclose known environmental hazards prior to transfer of certain residential properties. The State also maintains a database of sites (CalSites). The DTSC has the authority to apply a lien when appropriate.

Voluntary and Brownfields Programs

The State's Voluntary Cleanup Program was administratively established in 1993 and is operated under the same regulations as the State cleanup program. It is open to all contaminated sites, except for federal or State superfund sites, military sites, facilities outside of DTSC jurisdiction, and leaking underground storage tanks. As an incentive, the program gives responsible parties more control over cleanup timing and methods. The State's oversight costs are funded 100 percent by responsible parties.

California also has a Brownfields Program for properties that are contaminated, or thought to be contaminated, and underutilized due to perceived remediation costs and liability concerns. This program includes RCRA sites, but not leaking underground storage tanks. Standards are identical to those in the State cleanup and voluntary programs.

The State provides tax credits, some loans and grants, and limited liability relief for projects under the Brownfields Program. The DTSC is in the process of implementing a program to provide loans for investigation and remediation.

Long-term Stewardship and Institutional Controls

The DTSC has a long-term stewardship program that covers all cleanup activities, including VCP and RCRA. The State allows institutional controls, monitors and enforces cleanups, and completes audits. As mandated by State law, the DTSC maintains a list of deed-restricted properties that is available on the Internet.

During FY00 the State implemented institutional controls that include well drilling restrictions, easements, restrictive covenants, reversionary interests, deed restrictions, and notices placed on deeds. Institutional Controls used by the DTSC to noficy the public include posting sites, publishing notices in newspaper, creating mailings for local residents and maintaining the CalSites Database. The State has a process to remove a deed restriction if a site is remediated to unrestricted use, pursuant to the Health and Safety Code. Draft regulations on land use covenants and requirements are currently under development.

HAWAII

State Sites

Known and Suspected: 558
Identified as Needing Attention: 105
On Inventory or Priority List: 5

Statutory Authorities

The *Environmental Response Law*, Haw. Rev. Stats. §§128D-1 *et seq.* (1988, as amended 1991), establishes a fund for removals and remedial response actions and provides for strict, joint and several, and retroactive liability; administrative order and site access authority; civil and criminal penalties; reporting requirements; cost recovery; provision of alternative water supplies; NRDs; and property transfer. In 1997, the law was amended to establish a voluntary cleanup program (VCP), *Voluntary Response Program*, Haw. Rev. Stats. §128D-2 *et seq,* which has additional provisions for citizen suits.

Program Organization and Funding

The Hazard Evaluation and Emergency Response Office (HEER) in the Environmental Management Division of the Department of Health has 29 FTEs, who handle all aspects of response actions on NPL and non-NPL sites, and who administer the voluntary cleanup program. Over the past couple of years staffing in HEER has increased as the Site Remediation Program started up and new positions were created in the VCP and Clean Air Program. One attorney from the Attorney General's Office works on these HEER programs. The HEER State cleanup program gets approximately 37 percent of its program and administrative funding from federal grants, 23 percent from the State General Fund, and 40 percent from the State Cleanup Fund. The voluntary cleanup program gets approximately 67 percent of its staff and administrative funding from the State Cleanup Fund and 33 percent from federal grants.

Cleanup Activities

The State's priority list is limited to sites where a formal cleanup agreement has been signed. These sites are assigned high, medium, low, or no further action priority levels and are addressed in order of importance.

There are currently 30 cleanups underway at non-NPL sites, five of which are currently underway under the voluntary cleanup program. One cleanup in the State program was completed in the last fiscal year, the first completed cleanup since the start of the program.

Cleanup Funding

The State Environmental Response Revolving Fund (ERRF) had a budget of $2.86M for FY00, of which $875K was expended. There was a large difference in the budgeted and expended amounts because a substantial portion of the budget was dedicated to potential emergency response needs. The main source of ERRF funds is an oil tax with smaller additions coming from penalties, cost recovery, and interest. This fund is used for site investigations, studies and design, removals, remedial actions, emergency response, CERCLA match, operations and maintenance, natural resource restoration, and program administration.

The State general fund had $314K appropriated for FY00, of which $324K was expended. State general funds have the same authorized uses as the ERRF.

Cleanup Policies and Criteria

In 1995, the HEER Office adopted regulations establishing risk assessment and management criteria and cleanup policies. Water quality criteria, MCLs/MCLGs, and background levels are used where appropriate to determine

cleanup levels. Groundwater, soil, land-use-based, and chemical specific health-based standards are also used. The State uses risk goals ranging between 10^{-4} and 10^{-6} for carcinogens and a hazard index of less than one for non-carcinogens. A stricter standard of 10^{-6} is used in the voluntary cleanup program for risk assessment carcinogens, soil standards, and chemical specific health-based standards.

Assumptions about future site-specific land use are not made when determining cleanup levels. All sites are required to be cleaned up within the 10^{-4} to 10^{-6} range regardless of intended land use.

Public Participation

Public participation requirements are established in regulation (Chapter 11-451, the State Contingency Plan). The same requirements apply to the voluntary cleanup program. The State determines what public participation activities are appropriate, then conducts or requires PRPs and/or voluntary parties to conduct the following activities: issuing press releases and fact sheets; making personal contacts with local officials, community residents, public interest groups, or other interested or affected parties, as appropriate; and preparation and implementation of a community relations plan. When the State determines that public participation is in the public interest or significant concern has been expressed, the State will publish a notice of availability of the administrative record in a newspaper that is printed and issued at least twice weekly in the county affected by the response actions, and if appropriate, in a newspaper of general circulation in the State within 60 days of initiation of on-site removal activity. Public comments and hearings may be held.

Enforcement

Liability

Liability is strict, joint and several, and retroactive. Civil penalties are available for $10K per day for failure to report a release and up to $50K per day per violation for failure to comply with an enforcement order. Parties that knowingly release non-permitted hazardous substances into the environment are subject to civil penalties up to $100K per day per violation. Punitive damages for failure to perform removal or remedial actions are treble. Cost recovery actions must be commenced within six years of completion of response actions.

Property Transfer

The voluntary cleanup program contains property transfer provisions. These provisions include: a requirement of disclosure on the deed or with the recorder of deeds that the site was or is contaminated with hazardous substances; requirement that the seller disclose the presence of hazardous substances on the site before transfer; requirement that the seller investigate the property to determine if hazardous substances exist on the site; and requirement of cleanup agreement before transfer. The State's residential property transfer law also requires disclosure of known environmental defects prior to transfer of certain residential properties. The State can apply a lien or a superlien when State funds are expended.

Voluntary and Brownfields Programs

Since 1997, the State has had a voluntary cleanup program established by the *Voluntary Response Program*, Haw. Rev. Stats. § 128D-2 *et seq*. The State's participation is funded through a voluntary response action account established within the environmental revolving fund. Voluntary parties pay a $1K nonrefundable application fee and a deposit of up to $5K to initiate a site-specific account and reimburse the State for oversight costs. All sites are eligible except: NPL listed and proposed sites; enforcement sites under CERCLA; RCRA corrective action sites; and (as determined by the director) sites that are enforcement sites under State law or where a State response is underway; sites that pose an imminent and substantial threat; and sites affected by a significant public interest. Incentives to participate include a letter of completion and exemptions from liability for prospective purchasers upon completion (if cleanup attains risk goal of 10^{-6}). The letter of completion is recorded on the property deed and its conditions run with the land; it is also sent to the county agency that issues building permits.

A brownfields program is established through policy as part of the VCP. Brownfields are targeted through the VCP and the same VCP cleanup standards are used. Four sites have been identified as brownfields but no cleanups are currently underway. The State can facilitate the redevelopment of brownfields by providing partial federal grants or State funds.

Long-term Stewardship and Institutional Controls

The State does not have a long-term stewardship or institutional controls program.

NEVADA

State Sites

Known and Suspected: 112
Identified as Needing Attention: 12
On Inventory or Priority List: N/A

Statutory Authorities

The Hazardous Materials provision, Nev. Rev. Stat. §§459.400-459.600 (1981, as amended 1983, 1985, 1987, 1989, and 1991), primarily covers operating facilities and spills. It gives authority for spill cleanup by the State or responsible parties as well as establishes the Hazardous Waste Management Fund.

The *Water Pollution Control Law*, Nev. Rev. Stat., Chapter 445, provides for additional enforcement authorities. Additionally the *Program for Voluntary Cleanup and Hazardous Substances and Relief from Liability*, Nev. Rev. Stat. §§459.610 - .658 (1999), provides the statutory authority for voluntary cleanups in Nevada.

Program Organization and Funding

The Bureau of Corrective Action, part of the Department of Conservation and Natural Resources, Division of Environmental Protection, oversees the State's cleanup, voluntary cleanup, RCRA corrective action, and UST programs. The Bureau of Corrective Action currently employs five FTE staff and the Superfund Branch employs three FTE staff. The Office of the Attorney General provides legal support for the program and there is currently one FTE attorney working on the State's hazardous substance cleanup programs.

Cleanup Activities

Cleanup actions are currently underway at 112 sites in Nevada. The State does not maintain a priority list. The authorized RCRA regulatory program and statutory authority under the *Water Pollution Control Law* are the primary mechanisms used to require and oversee cleanup activities.

Cleanup Funding

Financial information was not available for the Hazardous Waste Management Fund for FY00. The revenue for the Fund is predominately from waste volume fees with cost recoveries, penalties and interest constituting a minor sources of funding. Fund monies may be used for site investigation, studies and design, removals, emergency response, remedial actions, CERCLA match, operations and maintenance, grants to local governments, and program administration.

Cleanup Policies and Criteria

Action levels for contaminated sites are set by regulation with respect to both soils (N.A.C. 445A. 2272) and groundwater (N.A.C. 445A. 22735). Water quality, MCLs/MCLGs, background levels and land-use-based standards are also used. The State uses risk goals of 10^{-4} to 10^{-6}. Cleanups are to residential standards unless otherwise specified; land use restrictions are typically reflected in notices recorded on the deed.

Public Participation

State law and policy do not require public participation in the state cleanup program. However, the Corrective Action Bureau follows general NDEP public participation requirements, which address public notification, public hearings, public records, advisory groups, appeal procedures, and input to regulatory and statutory development. In

addition, the Bureau of Corrective Actions will conduct public outreach to educate the regulated community and the general public about its programs. Public notice requirements as well as provisions for public comment however are provided for the voluntary cleanup program through the authorizing statute for the Nevada voluntary cleanup program.

Enforcement

Liability

Liability is strict for those in possession of hazardous material involved in a spill. Liability is retroactive. Administrative order authority, including orders for information and site access, subpoena authority, injunctive action, criminal penalties, and cost recovery are available. Cost recovery is generally secured in consent agreements. Civil penalties of $25K per day per violation are available. Punitive damages are not authorized.

Property Transfer

Nevada requires disclosure on the deed of the presence of hazardous substances as well as a requirement that the seller disclose the presence of hazardous substances on the site before transfer.

Voluntary and Brownfields Programs

The voluntary program was established in 2000 as part of the standard cleanup program. Participation is limited to sites where a release of hazardous substances is likely, sites that are listed or proposed listed on the NPL, or any site that is under investigation. Incentives for participation in the program include a Certificate of Completion indicating that the site has been remediated that releases the holder of the Certificate from liability with respect to the release of the hazardous substance. The State's participation in the program is funded through fees, which include an application fee and direct and indirect costs. The fees levied against the participant pay for State oversight of cleanup actives as well as oversight of the application process.

Nevada's brownfields program targets areas currently zoned for industrial use for cleanup. Currently there is one site in the program where cleanup activities are underway, with no sites redeveloped to date. Low interest loans are an incentive for participation in the program.

Long-term Stewardship and Institutional Controls

The State has a long-term stewardship program for the State cleanup, voluntary, brownfield and RCRA programs that includes monitoring, institutional controls, enforcement, and review/reevaluation of sites. Nevada maintains a database of institutional controls employed at RCRA sites. This information is made available to the public through the Internet as well as FOIA requests.

REGION 10

Alaska
Idaho
Oregon
Washington

ALASKA

State Sites

Known and Suspected:	968
Identified as Needing Attention:	783
On Inventory or Priority List:	968

Statutory Authorities

The *Oil and Hazardous Substance Releases Law*, Alaska Stats. §§46.08.005 to .900, authorizes a fund, a priority list, and serves as the basis for the voluntary cleanup program.

The *Hazardous Substance Release Control Law,* Alaska Stats. §§46.09.010 to .900, covers enforcement and other provisions.

The *Liability and Cost for Oil and Hazardous Substances Discharge Law,* Alaska Stats. §§46.03.822 *et seq*., was used in response to the Exxon Valdez oil spill and provides for strict, joint and several liability.

The *Oil and Hazardous Substance Pollution Control Law*, Alaska Stats. §46.04, provides for additional fund authorities.

Program Organization and Funding

The Department of Environmental Conservation, Spill Prevention and Response Division, Contaminated Sites Remediation Program is responsible for cleanup activities at historically contaminated sites. This section has 39 FTEs devoted to State and federal Superfund activities. The Office of the Attorney General provides legal support with 2.5 FTE attorneys. Funding for staff and administration is provided by the State Cleanup Fund (57 percent), federal CORE and cooperative agreements (9 percent), and DERP/BRAC Agreements (34 percent).

Cleanup Activities

The State's inventory of 2,656 sites includes all sites, including petroleum sites (about 63 percent of the total), and closed sites. The numbers listed above represent the non-NPL, LUST, or petroleum sites. Currently, the State reports cleanup activities underway at 801 non-NPL sites, including petroleum sites. Of these, 73 are being handled voluntarily. Forty-eight (48) remedial actions were completed at non-NPL sites in FY00, including 15 through the voluntary program. At non-NPL sites, 638 remedial actions have been completed since the start of the State's program. Forty (40) of the sites were remediated through the voluntary cleanup program.

Cleanup Funding

Alaska's State cleanup fund is the Oil and Hazardous Waste Release Response Fund. This fund is composed of monies appropriated from a Surcharge Account that is funded by a $0.05 per barrel tariff on crude oil. Monies appropriated to a Mitigation Account are further appropriated by the legislature to the Response Fund. Two accounts comprise the Response Fund: the Response Account, which had a balance of approximately $50.1M at the end of FY00, and the Prevention Account which had a balance of about $14.2M at the end of FY00.

The Response Account, which is to be maintained at a level of $50M receives funds from the oil surcharge only if it drops below that total. In FY00, it received additions of $347K in cost recoveries, and disbursed $365K. $111K were obligated as of the end of the fiscal year. The account may be used for site investigation, studies and design, removals, emergency response, and remedial actions.

The Prevention Account receives funds from the oil surcharge, interest, and cost recoveries. Funds obligated as of the end of the fiscal year were $7.4M. Prevention Account money may be used for site investigation, studies and design, CERCLA match, operations and maintenance, removals, emergency response, remedial actions, program administration, long-term stewardship, and grants to local governments.

Cleanup Policies and Criteria

The State uses risk assessments, MCLs/MCLGs, water quality criteria, groundwater, chemical-specific health-based standards, land-use-based criteria, and soil (petroleum) standards. State guidelines provide for risk levels of 10^{-5} for carcinogens, and HI=1 for non-carcinogens. Groundwater, soil, and chemical-specific health-based standards are set at 10^{-5} and HI=1.

Four methods are available in regulation for establishing soil cleanup levels. Method One involves default soil cleanup levels for petroleum that are based upon site characteristics and potential groundwater exposure. Method Two is default soil cleanup levels for hazardous substances protective of inhalation, ingestion, and migration to groundwater. Method Three provides for site-specific modifications to Method Two levels. Method Four is site-specific risk assessment. Groundwater cleanup levels are based upon MCL and water quality criteria with alternative cleanup levels possible based upon potential availability of groundwater as a drinking water source and risk assessment.

Future land use assumptions are determined in consultation with landowners, public, and the local zoning authority. The Environmental Protection Agency's Land Use in the CERCLA Remedy Selection Process (OSWER Directive No. 9355.7-04, dated May 2, 1995) is considered in the process. The consent of affected landowners is required. The voluntary program uses the same standards.

Public Participation

The Department attempts to involve the public depending on the seriousness of the site and on public interest. Public notice, hearings and meetings, and document availability are provided on an ad hoc basis. Provisions for public comment are required by statute.

Enforcement

Liability

Liability is strict, joint and several, and retroactive. Civil penalties are $500 to $100K for first violations, and no more than $10K per day that a violation continues. No punitive damages are available.

Property Transfer

Alaska has no property transfer program or provisions, but does allow public access to its sites database, which is not required by law. The State may apply a lien when State funds are expended.

Voluntary and Brownfields Programs

Alaska established a formal VCP in 1996. The VCP is open to all petroleum sites and is being expanded to hazardous substance sites. The State's participation is funded by cost recovery at hourly rates after total expenses exceed $1K. The program provides for streamlined oversight of low to medium priority sites contaminated with petroleum or metals, or where default cleanup levels are applied. Site priority is determined according to the Alaska hazard ranking model. Sites contaminated with solvents are ineligible to participate. The State does not have a brownfields program, but targets brownfields through its voluntary program. Cleanup is currently underway at 73 sites; however, the number of sites redeveloped and with commitments for redevelopment is not tracked.

Long-term Stewardship and Institutional Controls

Alaska has a long-term stewardship program for sites in the State cleanup and voluntary cleanup programs. Twenty-seven (27) staff work on the LTS programs as part of their regular assignments, contributing to between one and two FTEs. Funding for LTS programs is not tracked separately from other cleanup funds. Alaska maintains a database of sites that tracks institutional controls among its other uses.

IDAHO

Idaho did not provide any information for this study.

State Sites

Known and Suspected:
Identified as Needing Attention:
On Inventory or Priority List:

Statutory Authorities

Idaho does not have a State equivalent to the federal program for cleaning up non-NPL contaminated sites, but works with responsible parties to encourage clean up of contaminated sites. The *Idaho Land Remediation Act*, Idaho Code Chapter 72, Title 39 (1996), establishes a voluntary cleanup program and requirements for contaminated property transfer.

The *Environmental Protection and Health Act* (EPHA), Idaho Code §§39-101 to –130 (1972, as amended 1993) provides enforcement authority for the Department of Environmental Quality to administer air quality standards, water quality standards, and enforcement measures.

In addition, the *Idaho Hazardous Waste Management Act* (HWMA), Idaho Code §§39-4401 to -4432 (1983, as amended 1984, 1987, and 1988), provides for RCRA enforcement authority, emergency response measures, and citizen suits authority.

Program Organization and Funding

The Department of Environmental Quality's (DEQ's) Waste Management and Remediation Division administers hazardous substance cleanup Legal support for non-NPL site work is provided by the Idaho Attorney General's Office on an as need basis.

Cleanup Activities

Information on numbers of cleanup activities is not available. Idaho does not maintain a site priority list.

Cleanup Funding

Idaho does not have a fund for non-NPL site cleanups. Idaho does have several funds that provide monies for NPL cleanups.

Cleanup Policies and Criteria

The State employs water quality criteria, MCLs/MCLGs, and groundwater standards in conjunction with risk assessments to determine cleanup levels. Idaho uses risk goals of 10^{-4} to 10^{-6} for its cleanups. Pursuant to the *Voluntary Land Remediation Act*, voluntary cleanups standards must be consistent with federal Superfund requirements.

Land use is considered in determining cleanup levels. Calculations for both residential and industrial uses are completed in the risk assessment, followed by site-specific land use determinations. For sites that are cleaned up to standards based on a specific land use, several types of institutional controls are used to ensure that the land use is maintained, including restrictive covenants.

Public Participation

The State follows federal Superfund guidelines for public participation by providing opportunities for public comments, hearings/meetings, and document availability. The *Voluntary Land Remediation Act* requires the State to provide public notice, public comment periods, and hearings and meetings for all voluntary cleanups.

Enforcement

Liability

Idaho does not have specific liability standards. The State can impose civil penalties of up to $10K per day per violation and up to $1K per day for continuing violations of law. The State does not impose retroactive liability or punitive damages.

Property Transfer

Idaho does not have any property transfer requirements other than requirements for disclosure of all environmental hazards prior to transfer of certain residential properties.

Voluntary and Brownfields Programs

In 1996, Idaho created a State voluntary cleanup program (*Voluntary Land Remediation Act*). Any party is eligible for the program except those engaged in cleanups regulated under other authorities (*e.g.,* RCRA). Incentives to participate in the program include tax incentives and a covenant not to sue once remediation has been fully completed. To cover oversight costs, participants deposit $2,500 with the Department upon beginning the cleanup, and deposit more, in $2,500 increments, as needed and notified by the Department.

Long-term Stewardship and Institutional Controls

No information is available about long-term stewardship or institutional controls.

OREGON

State Sites

Known and Suspected:	2,469
Identified as Needing Attention:	499
On Inventory or Priority List:	264

Statutory Authorities

The *Environmental Cleanup Law*, Or. Rev. Stats. §§465.200-420, 465.995 (1987, as amended 1989, 1991, 1995, 1999), establishes the Hazardous Substance Remedial Action Fund (HSRAF), an Orphan Site Account, a priority list, authorizes the Department of Environmental Quality to clean up sites contaminated by hazardous substances, and provides for enforcement, liability, cost recovery, cleanup standards, public participation, NRDs, environmental disclosure property transfer, and voluntary cleanups.

Brownfields Redevelopment, ORS §285A.185-.188, provides authorization for the State's brownfields program.

Program Organization and Funding

The Environmental Cleanup Program in the Department of Environmental Quality (DEQ) has a staff of 81 FTEs. One attorney from the Oregon Department of Justice handles litigation and advises the Environmental Cleanup Program as requested.

Funding for staff and administrative costs is provided by the State's cleanup fund (81 percent, including the Orphan Fund (27 percent) and HSRAF (53 percent), federal CORE/cooperative agreements (15 percent), and the Dry Cleaner Fund (4 percent). The voluntary cleanup and brownfields programs are funded through the State Cleanup Fund (81 percent) and federal CORE/Cooperative Agreements (19 percent).

Cleanup Activities

The confirmed release site list includes those sites where a release has been verified. The inventory of sites list includes only those sites where a preliminary assessment or the equivalent has been completed and a determination made that further investigation or remedial action is necessary.

Of non-NPL sites, 400 were being cleaned up, 64 were completed during FY00, and 392 have been completed since the program started. In addition, 21 removals were completed in the last fiscal year, while 292 separate removals were completed since the start of the program. Voluntary cleanups accounted for 242 of the sites underway in FY00. Voluntary cleanups were completed at 57 sites that fiscal year and at 302 sites since the start of the program. Eight (8) voluntary removals were completed in FY00 and 137 since the start of the voluntary cleanup program.

Cleanup Funding

The Hazardous Substance Remedial Action Fund (HSRAF) had a balance of $8.1M at the end of FY00. Additions for the fiscal year were $7.5M; $6.3M were paid out for non-NPL activities. Cost recoveries and hazardous substance and solid waste disposal fees make up the significant source of the HSRAF, with additional revenue from user fees supporting the voluntary program, and interest. The fund may be used for emergency response, site investigations, removals, studies and design, remedial actions, operations and maintenance, program administration, and State CERCLA match.

The Industrial Orphan Site Account had a balance of $9.9M at the end of 2000. A total of $8.2M were added to the account during FY00. $5.2M were paid out of the account, all for non-NPL purposes. The significant source of funds for the Industrial Orphan Site Account is bond authority. Interest and cost recovery are minor sources of funding. Bond debt service is financed with State appropriations and hazardous substance fees. Bonds are usually sold every other year, and $8.0M were sold in FY00. Authorized uses for the fund include site investigation, CERCLA

match, studies and design, removals, grants to local government, remedial actions, program administration, and operations and maintenance.

The Solid Waste Orphan Site Account had a balance of $3.2M at the end of FY00. A total of $776K were added to the account during FY00. The total amount paid out during the fiscal year was $1.2M, all for non-NPL sites. The account receives its funding through waste fees and interest. Money from the account may be used for site investigation, studies and design, operation and maintenance, removals, grants to local governments, program administration, and remedial actions.

The Dry Cleaner Fund had a balance of $1.07M at the end of FY00. It took in $671K during FY00, and paid out $857K, all to non-NPL sites. These funds are generated by annual fees, solvent fees, and a "deductible" paid by participants.

Cleanup Policies and Criteria

The State uses risk assessment, background levels, and soil standards to set cleanup levels. Water quality criteria or MCL/MCLGs may be used if foreseeable uses of water are affected. Risk levels of 10^{-6} are used for cumulative cancer risk. The State uses a Hazard index of 1 or less for non-carcinogens.

Oregon has adopted numeric standards for soil cleanup of 76 compounds at "simple" sites. These soil cleanup standards allow greater residual contamination in industrial zones. Land-use-based cleanups are recognized. Risk-based standards are based on likely future land use which includes the consideration of current use, proposed use, current zoning, future zoning; area trends; and stakeholder (including community) desires. The potentially responsible party must identify and submit all current and reasonably likely land uses to the department for evaluation. Institutional controls are deed restrictions and other equitable servitudes. The same cleanup standards apply to the voluntary program.

Public Participation

The law mandates public notice of the DEQ's program for identifying releases, proposed settlement agreements, and all proposed remedial actions, with a 30-day comment period. Public meetings are required for proposed remedial actions if requested by a minimum of 10 people. Public notice is provided for final remedial action. The laws also provide for document availability.

Public notice, public comment, and hearings and meetings are all required by statute for the voluntary cleanup and brownfields programs.

Enforcement

Liability

The statute establishes strict, retroactive liability for owners, operators, and any person who caused or contributed to a release of a hazardous substance. Liability is joint and several. However, transporters and off-site generators are generally not liable. Proportional liability applies in contribution actions using the "Gore" factors. Civil penalties of up to $10K per day are available.

The statute authorizes administrative orders, injunctive relief, cost recovery, penalties, liens, and treble damages. The Waste Management and Cleanup Division favors an approach that seeks voluntary cleanup from PRPs prior to issuance of orders; use of the fund is the agency's last choice.

Property Transfer

Oregon does require the seller of a site to disclose the presence of hazardous substances (ORS 465.255(1)(c)); however, there is no active State government role. The State's residential property transfer law contains requirements for disclaimer and disclosure of known environmental hazards prior to transfer of certain residential properties. The State also has a database of sites.

Voluntary and Brownfields Programs

Oregon has a voluntary cleanup program, established by policy in 1991 and legislatively ratified by a budget bill in 1993, that complements the Orphan and Enforcement Program using the same standards and criteria. Anyone wanting to move a cleanup forward is eligible to participate. The State will provide technical assistance and a no further action letter for participants. State participation in the program is funded by cost reimbursement. An hourly rate including indirect costs and overhead for staff oversight is charged, and there is an initial $5K deposit.

Oregon has an evolving brownfields program. It seeks redevelopment of some orphan projects, and administers a Prospective Purchaser Program. Forty-four (44) sites have Prospective Purchaser Agreements. The Oregon Economic and Community Development Department (OECDD) has brownfields authority under ORS 285A.185. The DEQ, the OECDD, and the Governor's Office of Community Development increasingly cooperate on brownfields projects.

Long-term Stewardship and Institutional Controls

Oregon has a long-term stewardship program for State, voluntary, brownfields, and RCRA program sites. Four employees (less than one FTE) are designated to work on LTS programs. No funding is designated for LTS programs; the cost of institutional controls is recovered. Oregon maintains an information system that tracks the use of ICs at sites and is available to the public through the Internet and an office-based search tool. Sites are reviewed at varying intervals of five years or less. The results of the reviews are made public only upon request. The same LTS program is used for the voluntary and brownfields programs.

WASHINGTON

State Sites

Known and Suspected:	946
Identified as Needing Attention:	623
On Inventory or Priority List:	276

Statutory Authorities

The *Model Toxics Control Act*, Wash. Rev. Code Ch. 70.105D (1988, as amended), authorizes funding for two cleanup accounts, provides enforcement authorities, establishes a priority list, and provides for citizen suits, long-term stewardship, contaminated property transfer notice, voluntary cleanups, and brownfields.

Program Organization and Funding

The Department of Ecology (WDOE) includes the Toxics Cleanup Program, which has 142 FTE staff members; 145 are authorized. The Attorney General's office has approximately three FTEs working on cleanups. Staff and administrative costs are funded by federal cooperative agreements (22 percent), a State fund (26 percent), and a State Cleanup Fund (52 percent).

Cleanup Activities

At non-NPL sites, 324 cleanup actions are currently underway. Cleanup activities were completed at 30 non-NPL sites in FY00, bringing the total completed to 320 since the program inception.

Under the voluntary cleanup program, 109 cleanup actions are underway. Cleanup activities were completed at seven sites in FY00, bringing the total to 54 since the start of the program.

For the State's hazardous site list, sites are ranked according to the relative health and environmental risk each site poses. Sites are ranked on a scale of one to five. A score of one represents the highest level of risk and five the lowest. Ranked sites are put on the State list.

Cleanup Funding

The Department administers two accounts: (1) the State Toxics Control Account and (2) the Local Toxics Control Account.

The unencumbered balance in the State Toxics Control Account was $12M at the end of the fiscal year; $27M were encumbered at the end of the fiscal year: $26.5M for non-NPL sites and $0.5M for NPL sites. The State account received $22M in FY00. A total of $27M was paid out during FY00: $26.5M for non-NPL sites and $0.5M for NPL sites. The State account is funded primarily from taxes and appropriations from these dedicated taxes. Cost recoveries, transfers, user fees, interest, and penalties also contribute to the fund. The State account may be used for site investigation, emergency response, removals, studies and design, remedial actions, natural resource restoration, operations and maintenance, State CERCLA match, long-term stewardship, and program administration.

The Local Toxics Control Account balance at the end of FY00 was $10M. $29M were obligated or encumbered at the end of the fiscal year. Funded by taxes, $37M were added to the account and $29M were paid out during FY00, all for non-NPL sites. Authorized uses for the fund include site investigation, studies and design, operation and maintenance, removals, grants to local governments for remedial actions, program administration, natural resource restoration, and long-term stewardship.

Cleanup Policies and Criteria

Washington regulation provides three options for establishing cleanup levels. Method A provides tables of cleanup levels that are protective of human health for 25 to 30 of the most common hazardous substances found in soil and groundwater at sites. Method A is designed for cleanups that are relatively straightforward or involve only a few hazardous substances. Cleanup levels under Method B are established using applicable State and federal laws and risk assessment equations and other requirements specified for each medium. Method B may be used at any site and is the most common method for setting cleanup levels when sites are contaminated with substances not listed under Method A. Method C cleanup levels are similar to those of Method B except that they are based on less stringent exposure assumptions and the lifetime cancer risk is set at 1 in 100,000 for both individual substances and for the total cancer risk caused by all substances on a site. Method C cleanup levels may be used to set soil and air cleanup levels at industrial sites and to set air cleanup levels in manholes and utility vaults. For groundwater, surface water, and air cleanup levels, Method C may also be used when Method A or B cleanup levels are lower than technically possible or lower than area background concentrations, or when attainment of those levels may result in a significantly greater overall threat to human health and the environment than attainment of Method C cleanup levels, provided all practicable methods of treatment have been used and institutional controls are in place.

WDOE uses water quality criteria, MCL/MCLGs, background levels, soil and groundwater levels, and standard State formulas for risk assessment. Risk levels are set at 10^{-6} for individual carcinogens for unrestricted use, and 10^{-5} for restricted use sites. Total risk for non-carcinogens must meet a Hazard Index of 1 and cancer risk of 10^{-5} or 10^{-6}. Unless a site qualifies for use of an industrial soil cleanup level, soil cleanup levels must use the presumed reasonable maximum exposure for residential land use. The same standards are used for the voluntary cleanup program.

Public Participation

The WDOE must establish regional citizens' advisory boards at State funded and enforcement sites and at brownfields sites. The State is also required by statute or regulation to notify the public, provide for public comment, hold hearings and meetings, and provide grants to citizen groups. Under the voluntary cleanup program, public notice is required by statute.

Enforcement

Liability

The *Model Toxics Control Act* (MTCA) provides for strict, joint and several, and retroactive liability. The law includes civil penalties (up to $25K per day) and treble damages.

Property Transfer

The State has the following property transfer provisions: requirement of disclosure on the deed that the site was, or is, contaminated with hazardous substances (restrictive covenant); a requirement that seller disclose the presence of hazardous substances on the site before transfer; and a State-maintained database. The State can apply a lien when State funds are expended.

Voluntary and Brownfields Programs

Washington has a voluntary cleanup program, established in 1995. It is authorized under the *Model Toxics Control Act*. Any site not under discussion for a formal consent oversight agreement is eligible to participate. Incentives for participating include quicker cleanup without the formal process. The Department will also provide site-specific technical assistance and review the cleanup report for a fee. The Department will either issue a letter of no further action or identify what additional work is needed. The State's participation is funded by a deposit $500 with additional hourly costs based on direct staff support costs plus support costs. Actual costs in excess of $500 are charged to the applicant and recovered by the Department while actual costs less than $500 are refunded.

Washington has a brownfields program through its voluntary program. To be involved in the State brownfields program, a prospective purchaser must agree to the cleanup and reuse of vacant or abandoned commercial or industrial property. The Department and attorney general may give priority to settlements that will provide a substantial public benefit, including, but not limited to the reuse of a vacant or abandoned manufacturing or industrial facility, or the development of a facility by a governmental entity to address an important public purpose. Brownfields are provided the same protections as those sites under a decree or order. That is, the purchaser receives: (1) liability protections for claims for contribution; (2) a settlement that is filed with the court; (3) enforcement protection from the Department; and (4) settlement agreement may contain a covenant not to sue.

Long-term Stewardship and Institutional Controls

Washington's long-term stewardship program is used at State cleanup, voluntary, brownfields, and RCRA sites. Funding for LTS is not allocated separately from other cleanup funds, and Department expenditures are cost recoverable from the potentially liable parties. An estimated 60 percent of the Department's cleanup staff are somewhat involved in the LTS program, though approximately less than one FTE is devoted to LTS. The State maintains a tracking system that tracks the use of institutional controls at sites. The Department of Ecology has placed its site information database on the Internet for the public to access and view site activities and related data. Primary users of the system are project managers in the Department's toxics cleanup and hazardous waste programs. Secondary users of the system are information technology specialists and policy staff who prepare regular reports on the issuance of decisions where ICs are part of a remedial action alternative. The State reviews sites with institutional controls once every five years. The results of the reviews are published and distributed to the public in the Department's monthly Site Register report. Washington is currently updating its count of the number of sites where the Department has approved institutional controls. The same LTS program is used for VCP sites when the site receives a no further action written opinion from the Department and institutional controls are a component of the remedial action. The same program is also used at brownfields and RCRA sites.

APPENDIX: LIST OF STATE CONTACT INFORMATION

Reg.	State	Agency Web Address	Name	Phone	Email
1	CT	http://dep.state.ct.us	Christine Lacas	(860) 424-3766	christine.lacas@po.state.ct.us
	MA	http://www.state.ma.us/dep/depho me.htm	Paul Bakely	(617) 292-5617	D.PAUL.Bakely@state.ma.us
	ME	http://www.state.me.us/dep/index.htm	Mark Hyland	(207) 287-7673	mark.hyland@state.me.us
	NH	http://www.des.state.nh.us/	Carl Baxter	(603) 271-2909	cbaster@des.state.nh.us
	RI	http://www.sec.state.ri.us/dem/	Leo Hellested	(401) 222-2797	lhellest@dem.state.ri.us
	VT	http://www.anr.state.vt.us	George Desch	(802) 241-3491	georged@dec.anr.state.vt.us
2	NJ	http://www.state.nj.us/dep/srp/inde x.htm	Andy Geary	(609) 777-0103	ageary@dep.state.nj.us
	NY	http://www.dec.state.ny.us	Ted Bennett	(518) 402-9750	tabennet@gw.dec.state.ny.us
	PR				
3	DC		Angele White	(202) 535-1747	awhite@dchealth.com
	DE	http://www.dnrec.state.de.us	Christina Wirtz	(302) 395-2600	cwirtz@dnrec.state.de.us
	MD	http://www.mde.state.md.us	Karl Kalbacher	(410) 631-3437	kkalbacher@mde.state.md.us
	PA	http://www.dep.state.pa.us/dep/deputate /airwaste/wm/default.htm	Dave Hess	(717) 783-7816	hess.da@state.pa.us
	VA	http://www.deq.state.va.us	Kevin Greene	(804) 698-4236	klgreene@deq.state.va.us
	WV	http://www.dep.state.wv.us/	Ken Ellison	(304) 558-2508	kellison@dep.state.wv.us
4	AL	http://www.adem.state.al.us	Stephen Cobb	(334) 271-7739	sac@adem.state.al.us
	FL	http://www.dep.state.fl.us/waste/key_ar eas/wc/default.htm	Lisa Duchene	(850) 921-9957	lisa.duchene@dep.state.fl.us
	GA	http://www.dnr.state.ga.us/dnr/environ/	Tim Cash	(404) 657-8600	tim_cash@mail.dnr.state.ga.us
	KY	http://www.nr.state.ky.us/nrepc/dep/wa ste/dwmhome.htm	Fazi Sherkat	(502) 564-6716	Fazi.Sherkat@mail.state.ky.us
	MS	http://www.deq.state.ms.us/newweb/ho mepages.nsf	Jere Hess	(601) 961-5654	Trey_Hess@deq.state.ms.us
	NC	http://www.enr.state.nc.us/	Jack Butler	(919) 733-4811	jack.butler@ncmail.net
	SC	http://www.scdhec.net	Keith Lindler	(803) 896-4052	lindlejk@columb34.dhec.state.sc.us
	TN	http://www.state.tn.us/environment/dsf/ index.html	Frank Grubbs	(615) 532-0910	fgrubbs@mail.state.tn.us
5	IL	http://www.epa.state.il.us/	Larry Eastep	(217) 782-9802	epa9045@epa.state.il.us
	IN	http://www.IN.gov/idem	Lynette Schrowe	(317) 232-8552	lscrowe@dem.state.in.us
	MI	http://www.deq.state.mi.us	Jim Linton	(517) 373-8450	lintonj@state.mi.us

APPENDIX: LIST OF STATE CONTACT INFORMATION

Reg.	State	Agency Web Address	Name	Phone	Email
5	MN	http://www.dnr.state.mn.us/	Allen Dotson	(651) 396-7735	allen.dotson@pca.state.mn.us
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