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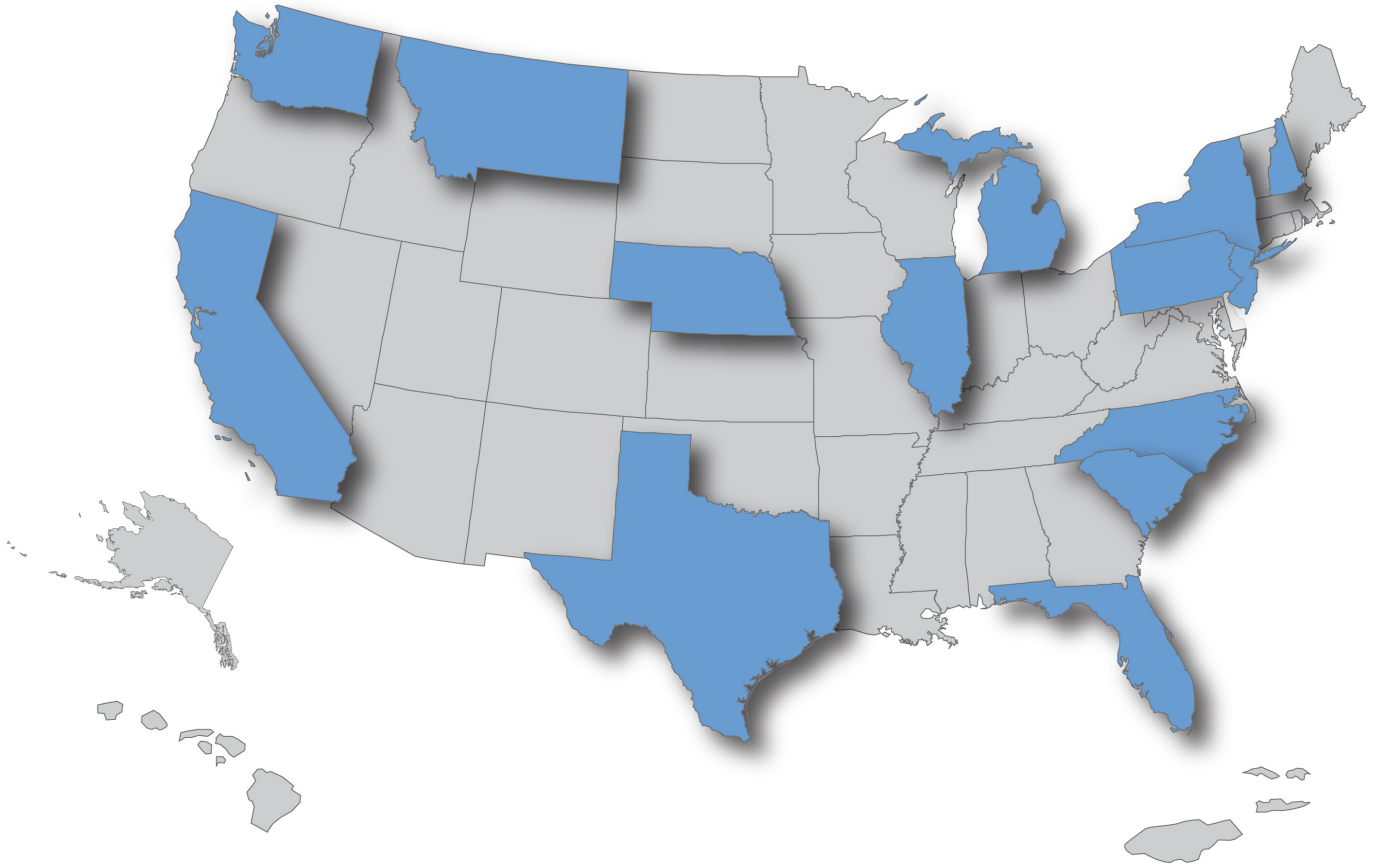
The National LUST Cleanup Backlog:
A Study of Opportunities



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THE NATIONAL LUST CLEANUP BACKLOG: A STUDY OF OPPORTUNITIES

STATE SUMMARY DRAFT: ILLINOIS

Office of Solid Waste and Emergency Response
Office of Underground Storage Tanks
September 2011

LIST OF ACRONYMS

EPA	United States Environmental Protection Agency
ESA	Expedited Site Assessment
FY	Fiscal Year
IEPA	Illinois Environmental Protection Agency
LIT	Leaking Underground Storage Tank Incident Tracking database
LUST	Leaking Underground Storage Tank
MNA	Monitored Natural Attenuation
MSA	Multi-Site Agreement
MTBE	Methyl Tertiary Butyl Ether
NA	Not Applicable
PRP	Potentially Responsible Party
RP	Responsible Party
TACO	Tiered Approach to Corrective Action Objectives
UST	Underground Storage Tank

EXECUTIVE SUMMARY

Leaks from underground storage tanks (USTs) threaten America's groundwater and land resources. Even a small amount of petroleum released from a leaking underground storage tank (LUST) can contaminate groundwater, the drinking water source for nearly half of all Americans. In surveys of state water programs, 39 states and territories identified USTs as a major source of groundwater contamination.[2] As the reliance on our resources increases due to the rise in population and use, there is a correspondingly greater need to protect our finite natural resources.

From the beginning of the UST program to September 2009, more than 488,000 releases were confirmed from federally-regulated USTs nationwide. Of these confirmed releases needing cleanup, over 100,000 remained in the national LUST backlog. These releases are in every state, and many are old and affect groundwater. To help address this backlog of releases, the United States Environmental Protection Agency (EPA) invited 14 states to participate in a national backlog characterization study.

ANALYSIS OF ILLINOIS DATA

The Illinois Environmental Protection Agency (IEPA) has made significant progress toward reducing its LUST cleanup backlog. As of March 2009, IEPA had completed 14,420 LUST cleanups, which is 63 percent of all known releases in the state. At the time of data collection, there were 8,479 releases remaining in its backlog.[3] EPA believes states and EPA must develop backlog reduction strategies that can be effective in states with the largest backlogs. EPA invited Illinois to participate in its national backlog study because Illinois has one of the ten largest backlogs in the United States.

In this chapter, EPA characterized the releases in Illinois that have not been cleaned up, analyzed these releases based on categories of interest, and developed potential opportunities for IEPA and EPA to explore that might improve the state's cleanup progress and reduce its backlog. Building on the potential cleanup opportunities identified in the study, EPA will continue to work with IEPA to develop backlog reduction strategies.

In Illinois, as in every state, many factors affect the pace of cleaning up releases such as the availability and mechanisms of funding, statutory requirements, and program structure. The recent economic downturn has also had an impact on the ability of many states to make progress on cleanups.

EPA included potential cleanup opportunities in this report even though current circumstances in Illinois might make pursuing certain opportunities challenging or unlikely. Also, in some cases, IEPA is already using similar strategies as part of its ongoing program. The findings from the analysis of IEPA's data and the potential cleanup opportunities are summarized below in six study areas: stage of cleanup, cleanup financing, state regional backlogs, number of releases per potentially responsible party (PRP), geographic clusters, and data management.

Illinois LUST Data By the Numbers[1]

Cumulative Historical Releases	22,899
National Backlog Contribution	8.2%
Closed Releases	14,420/63%
Open Releases	8,479/37%
Stage of Cleanup	
Confirmed Release	4,128/49%
Site Assessment	1,897/22%
Remediation	2,454/29%
Media Contaminated	*Data not available*
Median Age of Open Releases	13.0 years

1 Data were provided in March 2009 by IEPA staff and are not identical to the UST performance measures reported on EPA's website, available at: www.epa.gov/oust/cat/camarchv.htm.

2 EPA, National Water Quality Inventory: 2000 Report, pp. 50-52. www.epa.gov/305b/2000report/chp6.pdf.

3 EPA tracks individual releases rather than sites in its performance measures. Therefore, the analyses in this report account for numbers of releases, not sites.

Stage of Cleanup *(page IL-10 for more details)*

Illinois Finding	Potential Opportunity	Releases
52 percent of releases are either: • 5 years old or older and site assessment has not started; or • 10 years old or older and still in site assessment.	• Expedite site assessments at old releases to identify releases that can be closed with minimal effort or moved toward remediation. • Examine other funding sources including public/private funding options, such as petroleum brownfields grants for low priority releases. • Implement enforcement actions at stalled releases.	4,420
19 percent of releases are: • 10 years old or older; and • in remediation.	Use a systematic process to explore opportunities to accelerate cleanups and reach closure, such as: • periodically review release-specific treatment technologies; • review site-specific cleanup standards; • continue the use of institutional or engineering controls; and • implement enforcement actions if cleanup has stalled.	1,607

Illinois' releases are taking a long time to move through the cleanup process, and Illinois has a large number of old releases in early stages of cleanup. There are several reasons why many releases in the backlog are old including: remaining releases are complex and therefore take a long time to address; a large number of releases have not been assigned to a project manager; and relatively high deductibles might cause some responsible parties (RPs) not to pursue cleanup activities unless ordered to do so. Nevertheless, EPA believes it is important for IEPA to explore opportunities to accelerate cleanups at older releases and to make progress toward bringing all releases to closure.

Cleanup Financing *(page IL-12 for more details)*

Illinois Finding	Potential Opportunity	Releases
74 percent of cleanups have not received state funds.	Explore opportunities to address more cleanups with the state fund, such as: • examine cost savings measures; and • examine other funding sources including public/private funding options, such as petroleum brownfields grants for low priority sites.	6,252
The median amount of public spending to date at cleanups in remediation is twice the median amount spent at closed releases.	Evaluate the relationship between cost increases and treatment technologies and consider opportunities to reduce costs, such as: • revising state fund reimbursement practices to create incentives for the use of the most cost-effective treatment technologies for cleanups; and • reevaluating the current remedial plan at old state fund eligible releases in the Remediation stage to identify releases where a more cost-effective plan could be implemented, such as: ○ using monitored natural attenuation; ○ using site-specific risk-based decision making; or ○ using institutional or engineering controls to achieve closure.	Variable number of releases[4]

EPA and state programs are interested in exploring successful financing strategies for completing cleanups quickly. EPA acknowledges that the recent economic downturn has impacted cleanup financing. EPA also believes the availability of funding for cleanup is essential to reducing the backlog, so in addition to this study, EPA is increasing its focus on oversight of state funds as well as conducting a study of private insurance. Illinois' UST Fund pays for cleanups of releases from all eligible tanks, so it is likely that the majority of releases in Illinois are state fund eligible and to date, 24 percent of releases have received state funds. IEPA should explore opportunities to address more releases with state funds.

The structure of state funds can potentially create incentives or disincentives for prompt cleanup. For example, a high deductible would provide a different incentive

4 Opportunities marked as "variable number of releases" relate to programmatic opportunities and affect an unknown number of releases, potentially including all open releases.

for owners than a low deductible. The deductible in Illinois can be as much as $100,000 and therefore might be preventing RPs from performing cleanup activities. EPA will continue to work with IEPA to explore how these incentives affect the pace of cleanup and how to use effective incentives to support program implementation.

All state programs are experiencing resource limitations and progress is dependent upon their ability to apply existing resources to their backlogs. While costs incurred by the state fund for cleanups are higher now than in the past, there might be opportunities to control costs through revised reimbursement practices. Reimbursement delays cause short-term financing costs that also could contribute to increased cleanup costs. Revised practices, such as using cost-effective technologies, could potentially free up funding to move more releases through remediation and to closure.

State Regional Backlogs *(page IL-14 for more details)*

Illinois Finding	Potential Opportunity	Releases
42 percent of releases are located within a single IEPA region.	Develop region-specific strategies for moving releases toward remediation and closure.	Variable number of releases

EPA has identified differences in the distribution of the backlog among IEPA's seven regions. Although IEPA regional staff is no longer responsible for managing LUST cleanups, differences in management and administration of the cleanup program when regional staff managed the program might be related to the differences in the backlog between the IEPA regions. Other external factors such as geologic and geographic differences might also contribute to the difference in the backlog. For example, areas of higher population usually result in areas of larger backlogs. Property transfers provide incentives for cleanup, particularly in urban areas. Differences in geology and terrain can make releases in one part of the state more difficult to clean up than releases in other parts of the state. These differences might reveal opportunities for region-specific backlog reduction.

Number of Releases per PRP *(page IL-15 for more details)*

Illinois Finding	Potential Opportunity	Releases
Releases are less likely to have begun remediation when the PRP is associated with fewer than 10 releases.	• Provide information and technical assistance to PRPs or implement enforcement actions to spur the completion of site assessments and move releases to remediation and closure. • Encourage PRPs and stakeholders to examine public and private funding options, such as petroleum brownfields grants. • Implement enforcement actions at stalled cleanups.	3,669
18 percent of releases are associated with 55 PRPs that have 10 or more releases each.	Explore possibilities for multi-site agreements (MSAs) or enforcement actions with parties associated with multiple releases.	1,508

EPA analyzed the number of releases per PRP to identify the PRPs that are the largest potential contributors to the state's cleanup backlog. EPA was able to identify groups of releases that have common ownership or name affiliation by analyzing data on PRPs associated with releases. These PRPs might or might not be determined to be the legally responsible parties. A large number of PRPs were identified with fewer than 10 releases that have not completed site assessments. Most of these PRPs have only one release and are likely to be small businesses. Implementation of additional outreach to small businesses should be pursued to move these releases toward remediation and closure.

In addition, 55 PRPs are each associated with 10 or more releases and account for 18 percent of the Illinois backlog. Even when a PRP is not legally liable to clean up a release, they might be interested in helping to clean up releases associated with their name or brand. IEPA and EPA can use this information to identify potential participants for multi-site strategies to clean up groups of releases.

Geographic Clusters *(page IL-17 for more details)*

Illinois Finding	Potential Opportunity	Releases
66 percent of releases are clustered within a one-mile radius of five or more releases.	Target releases within close proximity for resource consolidation opportunities.	Targeted number of releases[5]

Another multi-site approach that IEPA could use is targeting cleanup actions at geographically-clustered releases. This approach could offer opportunities for new community-based reuse efforts, using economies of scale, and addressing commingled contamination. EPA believes that highlighting geographic clusters of releases and working with state and local governments in area-wide initiatives will improve IEPA's pace of cleaning up releases. EPA intends to work with the states to conduct further geospatial analyses on clusters of releases in relation to RPs, highway corridors, local geologic and hydrogeologic settings, groundwater resources, and/or communities with environmental justice concerns. These analyses might reveal additional opportunities for backlog reduction.

Data Management *(page IL-17 for more details)*

Illinois Finding	Potential Opportunity	Releases
Several key data fields are not included, consistently maintained, or routinely tracked in the Leaking Underground Storage Tank Incident Tracking (LIT) database.	Improve LIT database to enhance program management and backlog reduction efforts.	Variable number of releases

Multiple data management limitations prevent a full assessment of the backlog and associated strategies for backlog reduction. Because of data limitations, EPA could not analyze media contaminated or specific type of financial responsibility mechanism. Additional improvements to data management could allow for easier overall program management within IEPA as well as provide an improved tool for developing strategies to reduce the cleanup backlog.

5 Opportunities marked as "targeted number of releases" relate to geographic opportunities that will address a limited number of releases within select designated geographic areas.

CONCLUSION

This chapter contains EPA's data analysis of Illinois' LUST cleanup backlog and identifies potential opportunities to reduce the backlog in Illinois. EPA discusses the findings and opportunities for Illinois, along with those of 13 additional states, in the national chapter of this report. EPA will work with states to develop potential approaches and detailed strategies for reducing the backlog. Development of strategies could involve targeted data collection, reviewing particular case files, analyzing problem areas, and sharing best practices. In addition, strategies could involve EPA actions such as using additional program metrics to show cleanup progress, targeting resources for specific cleanup actions, clarifying and developing guidance, and revising policies. EPA, in partnership with states, is committed to reducing the backlog of confirmed UST releases and to protecting the nation's groundwater, land, and communities affected by these releases.

PROGRAM SUMMARY

State LUST Program Organization and Administration

The Leaking Underground Storage Tank (LUST) Section within the Illinois Environmental Protection Agency's (IEPA's) Division of Remediation Management oversees remedial activities after a release occurs from an underground storage tank (UST). IEPA staff review the technical adequacy and associated budgets for plans and reports associated with site classification, site investigation, groundwater monitoring, and corrective action, including the development and evaluation of appropriate remediation objectives for each release. Once remediation objectives and program requirements have been met for a cleanup, IEPA issues a No Further Remediation Letter.

Cleanup Financing

Illinois' UST Fund pays for cleanups of releases from all eligible tanks. The Illinois Office of the State Fire Marshal is responsible for determining if an UST owner or operator is eligible for payment from the UST Fund and determines the deductible amount to be paid by the owner or operator. In order for a release to be eligible for funding, owner/operators must be private entities that are not exempt from Illinois' per-gallon tax, the tank must not be a farm or residential heating oil tank, and the tank must be registered and all required fees paid.[7] The deductible can be as much as $100,000 and therefore might cause some responsible parties (RPs) to not perform cleanup activities unless compelled to do so. To date, approximately 26 percent of currently open releases (2,227 releases) have received reimbursements from the UST Fund. The financial mechanisms for the remaining 74 percent of open releases (6,252 releases) are unknown.

IEPA is responsible for reviewing proposed budgets and payment requests to determine if cleanup costs are reasonable, eligible, and consistent with the associated technical plan. IEPA also prepares and processes vouchers for payment claims. The state fund reimburses RPs in the order in which claims are received, a process that currently takes an average of 20 months from the time the claim is received. Some cleanup contractors proceed with remedial activities because they know they will eventually be reimbursed by the state.

Cleanup Standards

Since 1997, IEPA has used site-specific, risk-based cleanup standards. The Tiered Approach to Corrective Action Objectives (TACO) is IEPA's method for developing risk-based and site-specific remediation objectives for contaminated soil and groundwater. A 2006 amendment to TACO requires that a Tier 2 site-specific risk level that is protective of human health be calculated for all releases. Previously, IEPA's Bureau of Land used conservative "one-size-fits-all" remediation objectives at nearly every cleanup. TACO also employs institutional or engineering controls to facilitate closure. Out of all 14,420 closed releases, 25 percent (3,672 releases) were closed with institutional or engineering controls in place, including 49 percent of

Illinois LUST Program At a Glance

Cleanup Rate
In fiscal year (FY) 2009, IEPA confirmed 330 releases and completed 901 cleanups.[6]

Cleanup Financing
Of open releases, 26 percent (2,227 releases) have received state funding.

Cleanup Standards
The program applies a risk-based cleanup approach.

Priority System
IEPA does not prioritize open releases.

Average Public Spending Per Cleanup
$140,000[8]

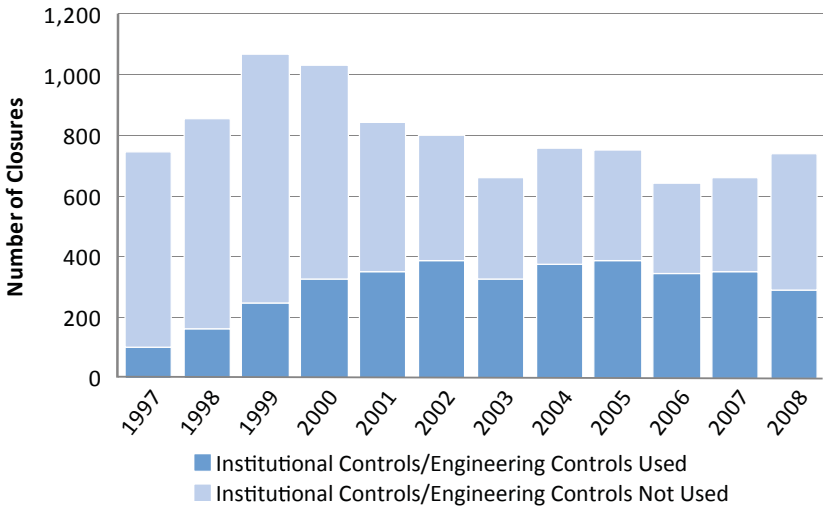
Releases Per Project Manager
Each project manager is on average responsible for 122 open releases.

Administrative Spending (2008)
$4.8 million[9]

6 Based on FY 2009 *UST Performance Measures End of Year Activity Report*.
7 For more information on release eligibility, see Illinois' Underground Storage Tank Fund Guide, available online at www.epa.state.il.us/land/lust/ust-fund.html.
8 Calculated based on public dollars spent at closed releases.
9 This amount includes expenses for LUST "technical and administrative staff salary, fringe benefits, equipment, and overhead."

all releases closed between 2002 and 2008 (2,450 releases) (Figure 1 below). Many of these institutional controls are pre-existing groundwater ordinances that prohibit the use of groundwater wells for potable water. Any closure within a municipality that has such a groundwater ordinance will therefore have an institutional control in place.

Figure 1. Number of Closures vs. Use of Institutional or Engineering Controls Over Time



Release Prioritization

IEPA's LUST program does not have a risk-based prioritization method.[10] Instead, IEPA uses a "first come, first served" model in handling LUST cleanups. However, emergency responses are handled with urgency.

State Backlog Reduction Efforts

IEPA has implemented its 731 Initiative to reduce its backlog through review of old cases to identify releases ready for closure. Since fall 2007, IEPA has reviewed 2,325 old releases through this initiative. These releases were selected based on release date and the lack of an assigned project manager. The 731 Initiative has led to the closure of 341 releases and the assignment of a project manager to an additional 30 percent of the old releases.

10 According to an April 14, 2008, phone interview with IEPA staff.

ANALYSIS AND OPPORTUNITIES

In this study, EPA analyzed Illinois' federally-regulated releases that have not been cleaned up (open releases). EPA conducted a multivariate analysis on IEPA's data. However, this technique did not identify strong underlying patterns in the data.[11] Next, EPA divided the open releases into groups that might warrant further attention. EPA used descriptive statistics to examine the distribution of releases by age of release and stage of cleanup and highlighted findings based on IEPA's data.[13] EPA then identified potential opportunities for addressing particular groups of releases in the backlog. Many releases are included in more than one opportunity. These opportunities describe actions that EPA and IEPA might use as a starting point for collaborative efforts to address the backlog. Although EPA's analysis covered all releases in Illinois, there are 418 releases that are not included in any of the subsets identified in the findings or opportunities due to the way EPA structured the analysis. These releases might also benefit from some of the suggested opportunities and strategies.

EPA's analyses revealed six areas of Illinois' backlog with potential opportunities for its further reduction:

- Stage of cleanup
- Cleanup financing
- State regional backlogs
- Number of releases per potentially responsible party (PRP)
- Geographic clusters
- Data management

Data Limitation

During the data collection phase of this analysis, EPA discovered that the number of federally-regulated releases within the LIT database was significantly different from the number reported by IEPA for the FY 2008 UST Performance Measures. Subsequent discussion with IEPA revealed that the numbers identified by EPA and used in this report are more consistent with EPA definitions than the numbers reported by IEPA in FY 2008.

For example, the numbers reported by IEPA do not include 1,132 federally-regulated non-petroleum releases. These 1,132 releases are included in this analysis as open releases. In addition, 278 releases that had been transferred to another division by IEPA were reported as closed to EPA, but are considered open releases for this analysis. IEPA also reported 2,443 releases from non-federally-regulated tanks as cleanups completed. These 2,443 releases were not included in this analysis.

For the purposes of this analysis EPA chose to include those releases in the database that most closely represent EPA definitions of federally-regulated USTs and open and closed releases. However, due to the structure of the LIT database, there might be non-regulated releases included in this report that could not be distinguished from regulated releases. EPA is currently working with IEPA and EPA Region 5 to ensure future reporting to EPA reflects the appropriate federally-regulated universe.

LUST Data Source

Electronic data for LUST releases occurring between January 1984 and February 2009 were compiled by IEPA staff in 2008 and 2009.[12] Data fields were obtained from IEPA's Leaking Underground Storage Tank Incident Tracking (LIT) database and selected based on quality and the ability to address areas of interest in this analysis.

11 The analytic tree method, a multivariate technique used to identify underlying patterns among large data sets, did not reveal strong patterns within the data. For more information on analytic trees, see Appendix A.
12 For a detailed description of the Illinois data used in this analysis, see the Chapter Notes section.
13 For a detailed description of release stages, see the Chapter Notes section (Stage of Cleanup Reference Table).

STAGE OF CLEANUP

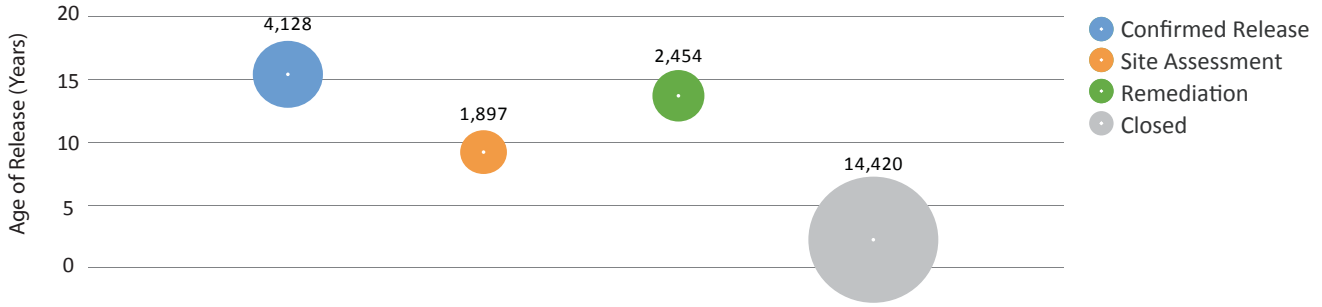
Illinois Finding
52 percent of releases are either: • 5 years old or older and site assessment has not started; or • 10 years old or older and still in site assessment.

Potential Opportunity	Releases
• Expedite site assessments at old releases to identify releases that can be closed with minimal effort or moved toward remediation. • Examine other funding sources including public/ private funding options, such as petroleum brownfields grants for low priority releases. • Implement enforcement actions at stalled releases.	4,420
Releases 5 years old or older in the Confirmed Release stage	*3,620*
Releases 10 years old or older in the Site Assessment stage	*800*

As of March 2, 2009, the Illinois backlog consisted of 8,479 open releases. EPA analyzed the age of LUST releases and the distribution of releases among the stages of cleanup to identify opportunities to reduce the cleanup backlog. To facilitate analysis, EPA classified Illinois' open releases into three stages of cleanup: the Confirmed Release stage (releases where assessments have not begun), the Site Assessment stage (releases where assessments have begun), and the Remediation stage (releases where remedial activities have begun).[14] While EPA grouped the releases into linear stages for this analysis, EPA recognizes cleanups might not proceed in a linear fashion. Cleanup can be an iterative process where releases go through successive rounds of site assessment and remediation. However, ultimately, this approach might be both longer and more costly. Acquiring good site characterization up front can accelerate the pace of cleanup and avoid the extra cost of repeated site assessment.

Since Illinois' LUST program began, IEPA has closed 14,420 releases, half of which were closed in fewer than 2.2 years (Figure 2 below). The young median age of closed LUST releases might be attributable to the closure of relatively easy to remediate releases. Also, national program policy allows states to report confirmed releases that require no further action at time of confirmation as "cleanup completed." Therefore, some releases are reported as confirmed and cleaned up simultaneously.

Figure 2. Age of Releases among Stages of Cleanup



The white dot at the center of each circle represents the median age of releases. Each circle is labeled with, and scaled to, the number of releases within each stage. Included in the release counts and size of circles are 67 closed releases and 76 open releases for which release age is unknown. These releases are not part of the median age calculation.

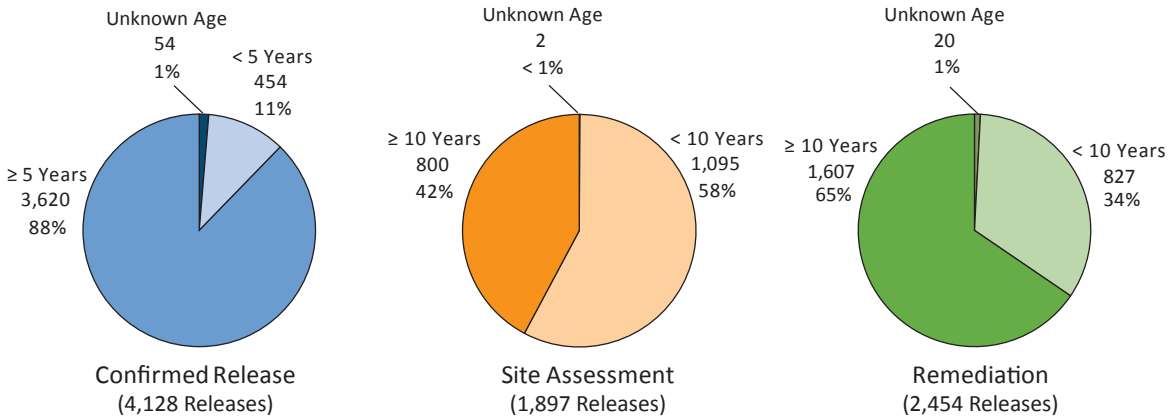
IEPA undertook its 731 Initiative to identify releases to be closed with minimal effort and this initiative led to the closure of 341 old releases. Additional closures are expected under this initiative. Other opportunities for closure with minimal effort will most likely be found at less complex releases where little or no remedial work is required to reach closure standards or at releases that have met closure standards but have not finished closure review.

Illinois has many old LUST releases not in remediation. Figure 3 on page 11 shows the backlog of open releases by age and stage of cleanup and allows for the identification of older releases by stage. Figure 3 breaks out the 3,620 older releases in the Confirmed Release stage (43 percent of the backlog) that have not been assessed five years or more after the releases were

14 Releases were classified into stages based on available data and discussion with IEPA staff. For more information, see the Chapter Notes section.

confirmed. It also shows the 800 older releases in the Site Assessment stage (9 percent of the backlog) that have not entered the Remediation stage 10 years or more after the releases were confirmed. This subset of older releases in the early stages of cleanup accounts for 52 percent of Illinois' total backlog. Illinois' data indicate that these releases have not moved into remediation quickly. Some of these releases might be privately financed, in which case, enforcement might be appropriate to move sites that appear stalled toward cleanup. For low priority releases without a viable RP, IEPA could investigate the availability of additional funding sources through public/private partnerships such as petroleum brownfields grants. Expansion of the 731 Initiative and expediting site assessments could help move releases toward remediation and closure.

Figure 3. Release Age Distribution among Stages of Cleanup



EPA encourages states to streamline the corrective action process, improve data collection, reduce the overall cost of remediation, and move releases more rapidly toward remediation and closure. To assist states and regulators in implementing these objectives, EPA developed its *Expedited Site Assessment* (ESA) guide.[15] The guide explains the overall ESA process as well as specific site assessment tools and methods. The ESA process rapidly characterizes site conditions to help support cost-effective corrective action decisions. ESAs can identify releases that can be closed with minimal effort or will provide all the information needed to move a release into remediation. Conducting site assessments efficiently and quickly can help reduce the backlog by accelerating the pace of cleanup and ultimately decrease overall project costs.

Illinois has many old releases in the Remediation stage. Nineteen percent (1,607 releases) of all of Illinois' releases are in remediation and are 10 years old or older (Figure 3 above). This older group of releases represents 67 percent of the releases in remediation. Because EPA only has the date that a release was confirmed but not when it moved from one stage to the next (e.g., from assessment to remediation), EPA can calculate the overall age of the release but not the actual time spent in the Remediation stage. It is possible that some of these releases might have only recently begun remediation. IEPA should consider establishing a systematic process to evaluate existing releases in remediation and optimize cleanup approaches, including choice of technology and site-specific risk-based decision making. This process might save IEPA resources and bring releases to closure more quickly. IEPA can also continue to use institutional or engineering controls to reduce the time to closure by eliminating exposure pathways and allow for less stringent cleanup standards where protective and appropriate.

15 EPA's 1997 guidance document, *Expedited Site Assessment Tools For Underground Storage Tank Sites: A Guide For Regulators* (EPA 510 B-97-001), is available online at: www.epa.gov/OUST/pubs/sam.htm.

Illinois Finding

19 percent of open releases are:

- 10 years old or older; and
- in remediation.

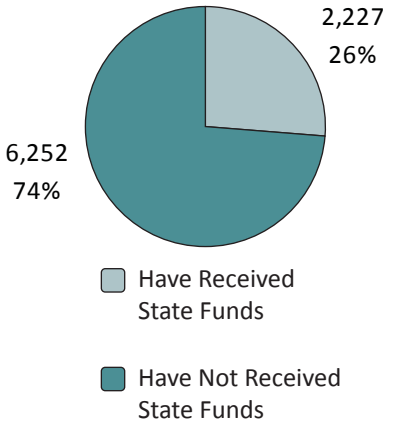
Potential Opportunity	Releases
Use a systematic process to explore opportunities to accelerate cleanups and reach closure, such as: • periodically review release-specific treatment technologies; • review site-specific cleanup standards; • continue the use of institutional or engineering controls; and • implement enforcement actions if cleanup has stalled.	1,607

CLEANUP FINANCING

Illinois Finding
74 percent of cleanups have not received state funds.

Potential Opportunity	Releases
Explore opportunities to address more cleanups with the state fund, such as: • examine cost savings measures; and • examine other funding sources including public/private funding options, such as petroleum brownfields grants for low priority sites.	6,252

Figure 4. Use of State Funds at LUST Cleanups



EPA and state programs are interested in exploring successful financing strategies for completing cleanups quickly. EPA acknowledges that the recent economic downturn has impacted cleanup financing. EPA also believes the availability of funding for cleanup is essential to reducing the backlog, so in addition to this study, EPA is increasing its focus on oversight of state funds as well as conducting a study of private insurance. In this study, EPA examined the number of releases that have received state funds for cleanup and performed a comparison of cleanup costs between open and closed releases.

Illinois' UST Fund pays for cleanups of releases from all eligible tanks. To date, 74 percent (6,252 releases) of the releases in Illinois have not received state funds. The lack of funding likely accounts for releases being inactive and not being assigned to a project manager (Figure 4, below left). As of late 2009, 26 percent (2,227 releases) of releases had been reimbursed from the state fund.[16] IEPA should consider exploring opportunities to address more releases with the state cleanup fund such as employing cost-cutting measures; for example, open market competitive bidding for cleanup work to increase the amount of funds available per cleanup. Another opportunity IEPA could investigate is the availability of additional funding sources through public/private partnerships such as petroleum brownfields grants for low priority releases without a viable RP. In addition, some states have started financing claims through public/private partnerships. If some of the releases are ineligible for the state fund, then IEPA should consider options such as enforcement to help move these cleanups toward remediation and closure.

Data on cleanup financing are available for 32 percent of closed releases (4,585 releases) and 26 percent of open releases (2,227 releases) in Illinois.[17] The median amount ($127,286) spent to date at releases in the Remediation stage is double the median amount ($62,816) spent at closed releases, suggesting that cleaning up a release has become more expensive over time (Figure 5, page 13). Because open cleanups will continue to incur costs and file additional state fund claims, the spending gap between open and closed releases will widen. This finding suggests that cleaning up LUST releases is more expensive today than in the past, possibly due to the closure of the easiest releases to remediate, leaving the releases with complex contamination in the backlog. Data were not available to compare increased cleanup costs with the cleanup difficulty posed by the releases.

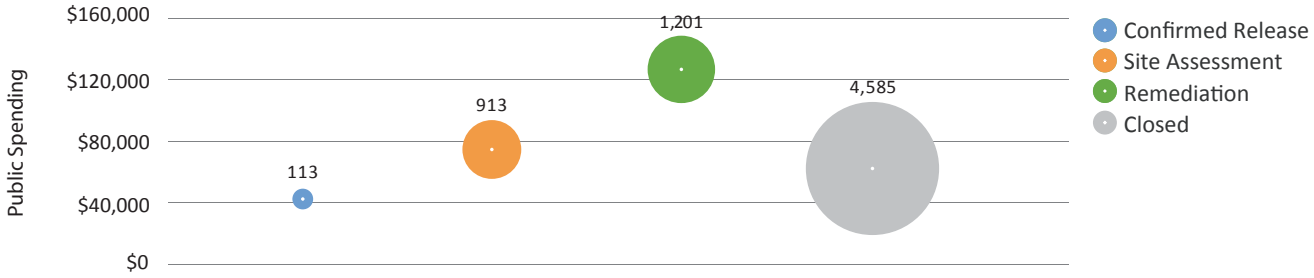
In the past, IEPA regulated older releases under different laws which did not require contractors to submit budgets for pre-approval. As a result, cleanups of these older releases led to excessive cleanup costs and reimbursements from the UST Fund. Currently, IEPA is able to pre-approve cleanup methods and monitor cleanup costs more effectively than in the past. Contractors performing LUST cleanups submit a proposed corrective action approach and receive pre-approval for the proposed activities and budget. If project reports indicate deviation from the pre-approved budget, IEPA communicates with the RP to prevent excessive cleanup costs.

Consultants file claims for payment more rapidly than the state fund can reimburse them; continued work is financed by those private consultants who feel comfortable waiting for state reimbursement. Delayed reimbursement, however, causes short-term financing costs that also contributes to increased cleanup costs. To sustain timely state financing of LUST cleanups and reduce its backlog, IEPA should evaluate its reimbursement practices to encourage cost-effective cleanup approaches. If a thorough evaluation determines that active remediation is ineffective in reducing contamination, alternative or innovative

16 According to December16, 2009 written communication with IEPA staff.
17 Data were compiled from releases where reimbursement claims have been filed. Dollar amounts are adjusted for inflation.

cleanup technologies such as MNA could be considered as an appropriate remedy.[18] MNA should not be considered a default or presumptive remedy at any contaminated site but if used appropriately, this approach could free up state funds for use at other cleanups and could increase the number of releases that IEPA is able to move toward remediation and closure.

Figure 5. Public Dollars Spent to Date, by Stage of Cleanup[19]



Illinois Finding
The median amount of public spending to date at cleanups in remediation is twice the median amount spent at closed releases.

Potential Opportunity	Releases
Evaluate the relationship between cost increases and treatment technologies and consider opportunities to reduce costs, such as: • revising state fund reimbursement practices to create incentives for the use of the most cost-effective treatment technologies for cleanups; and • reevaluating the current remedial plan at old state fund eligible releases in the Remediation stage to identify releases where a more cost-effective plan could be implemented, such as: ○ using monitored natural attenuation (MNA); ○ using site-specific risk-based decision making; or ○ using institutional or engineering controls to achieve closure.	Variable number of releases[20]

18 For more information regarding the appropriate use of MNA, see www.epa.gov/swerust1/pubs/tums.htm and EPA Directive Number 9200.4-17P, *Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites*, available online at: www.epa.gov/oust/directiv/d9200417.htm.

19 Public spending data were not available for 68 percent of closed releases (9,835 releases) and 74 percent of open releases (6,252 releases).

20 Opportunities marked as "variable number of releases" relate to programmatic opportunities and affect an unknown number of releases, potentially including all open releases.

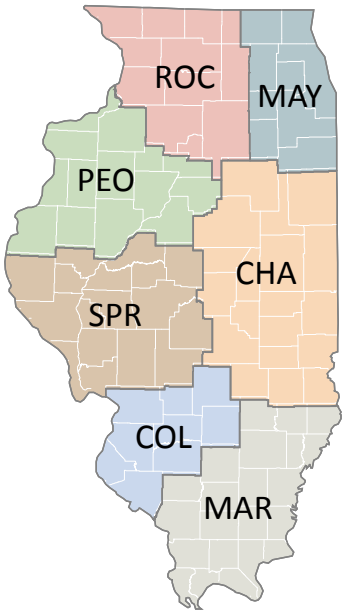
STATE REGIONAL BACKLOGS

Illinois Finding
42 percent of releases are located within a single IEPA region.

Potential Opportunity	Releases
Develop region-specific strategies for moving releases toward remediation and closure.	Variable number of releases

EPA analyzed cleanup backlogs within IEPA's seven regions to identify patterns and opportunities for targeted backlog reduction strategies within each IEPA region. Staff from IEPA's regional offices has historically managed LUST cleanups, but in the late 1990s, IEPA headquarters began to manage all LUST cases. Currently, regional staff performs field work when needed to support IEPA headquarters. Significant differences in the size of the backlog and release age among IEPA's seven regions might be related to differences in statewide geology, population distribution, and other factors (Figure 6 to the right and Table 1 below). Approximately 42 percent of Illinois' backlog (3,581 releases) is located within the Maywood (MAY) region, which includes the Chicago metropolitan area. Urban areas with greater populations can create financial incentives for cleanup due to property transfers. A strategic regional approach to these unique backlog characteristics could help reduce the backlog. EPA encourages IEPA to look for opportunities to share best practices among its regions and with other states.

Figure 6. IEPA Regions Map



CHA - Champaign
COL - Collinsville
MAR - Marion
MAY - Maywood
PEO - Peoria
ROC - Rockford
SPR - Springfield

Table 1. Illinois Backlog, by IEPA Region

	ROC	MAY	PEO	CHA	SPR	COL	MAR	Unknown
State Backlog Contribution	7.3%	42.2%	7.5%	7.8%	4.3%	7.3%	3.5%	20.0%
Cumulative Historical Releases	1,587	11,663	1,401	1,770	1,137	1,449	904	2,988
Closed Releases	967/61%	8,082/69%	761/54%	1,111/63%	770/68%	831/57%	608/67%	1,290/43%
Open Releases	620/39%	3,581/31%	640/46%	659/37%	367/32%	618/43%	296/33%	1,698/57%
Stage of Cleanup								
Confirmed Release	349/56%	1,964/55%	316/49%	348/53%	164/45%	271/44%	131/44%	585/34%
Site Assessment	112/18%	552/15%	146/23%	147/22%	94/25%	144/23%	90/31%	612/36%
Remediation	159/26%	1,065/30%	178/28%	164/25%	109/30%	203/33%	75/25%	501/30%
Median Age of Open Releases (Years)	16.1 years	15.3 years	15.9 years	15.4 years	14.7 years	14.3 years	12.5 years	2.9 years

NUMBER OF RELEASES PER PRP

EPA analyzed the number of releases per PRP to identify the PRPs that are the largest potential contributors to the state's cleanup backlog.[21] PRPs for most backlogged cleanups tend to have fewer releases, suggesting they might be located at smaller businesses: 82 percent of releases (6,950 releases) are from PRPs associated with between one and nine releases, many of which are in the Confirmed Release stage, and 56 percent of releases (4,748 releases) are from PRPs associated with a single release (Figures 7 and 8 below). When PRPs are associated with fewer than 10 releases, 74 percent of releases (5,159 releases) have not begun remediation (Figure 7). In contrast, only 23 percent of releases from PRPs associated with 10 or more releases (348 releases) have not begun remediation. The database does not list the PRP for 21 releases. IEPA should consider providing additional guidance to PRPs on how to effectively begin and complete cleanups, exploring other funding options to address these cleanups, and pursuing enforcement actions where necessary to move more releases toward remediation and closure.

Figure 7. Age of Releases, by Stage of Cleanup and Number of Releases with which a PRP is Affiliated[22]

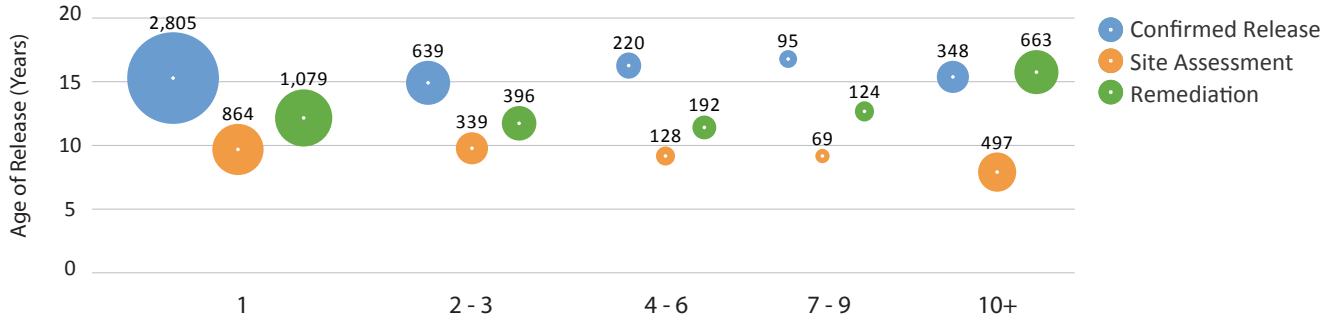
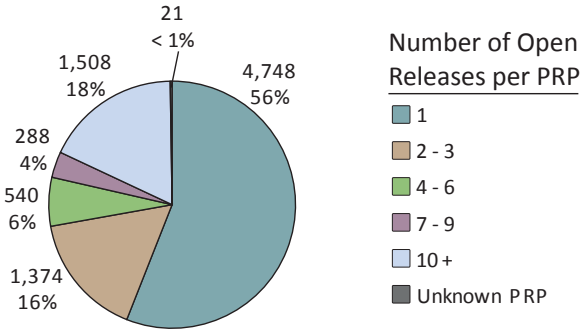


Figure 8. Distribution of Releases by the Number of Releases with which a PRP is Associated



Illinois Finding

Releases are less likely to have begun remediation when the PRP is associated with fewer than 10 releases.

Potential Opportunity	Releases
• Provide information and technical assistance to PRPs or implement enforcement actions to spur the completion of site assessments and move releases to remediation and closure. • Encourage PRPs and stakeholders to examine public and private funding options, such as petroleum brownfields grants. • Implement enforcement actions at stalled cleanups.	3,669

21 IEPA tracks data on PRPs, who might or might not be the legally responsible parties.

22 The 21 releases in the Confirmed Release stage for which the PRP is not yet known are not included in this figure.

Illinois Finding
18 percent of releases are associated with 55 PRPs that have 10 or more releases each.

Potential Opportunity	Releases
Explore possibilities for multi-site agreements (MSAs) or enforcement actions with parties associated with multiple releases.	1,508

A total of 55 PRPs are each associated with 10 or more releases and account for 18 percent of the Illinois backlog (1,508 releases; Table 2 to the right). Of these, 28 gasoline retail, distribution, or refining businesses are the PRPs for 11 percent of the backlog (973 releases), and six convenience store chains are the PRPs for 3 percent of the backlog (167 releases). Within these two groups, the six PRPs with the largest number of releases are associated with 7 percent of the backlog (580 releases), approximately half of which are within the Maywood regional office, which includes the greater Chicago metropolitan area (Table 3 below). For the PRP with the largest number of releases, over 99 percent of releases (141 releases) are not assigned to an IEPA district office in the LIT database. In the past, IEPA has developed cleanup agreements with RPs with a large number of releases but it is not currently engaged in MSAs. Even when a PRP is not legally liable for cleaning up a release, the PRP might be interested in helping to clean up releases associated with its name or brand. Focused efforts engaging these 55 PRPs associated with more than 10 releases through collaborative activities or enforcement actions might expedite the closure of many of these releases.

Table 2. PRPs with 10 or More Releases

Type of PRP	Number of Releases	Number of PRPs
Gasoline Retail/ Distribution/Refining	973	28
Convenience Store Chain	167	6
Government – Local	102	6
Government – Federal	88	5
Other	71	5
Government – State	60	2
Utility	47	3
Totals	**1,508**	**55**

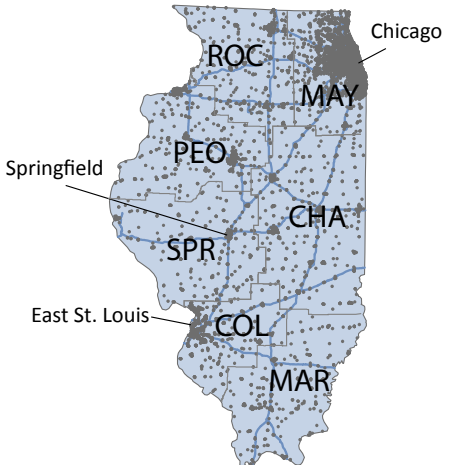
Table 3. PRPs with the Largest Number of Releases

	ROC	MAY	PEO	CHA	SPR	COL	MAR	Unknown	Total Releases
PRP #1	-	1	-	-	-	-	-	141	142
PRP #2	1	88	-	1	6	12	-	-	108
PRP #3	-	62	9	8	10	1	9	2	101
PRP #4	4	52	3	7	2	9	-	1	78
PRP #5	2	58	5	7	-	-	5	-	77
PRP #6	2	36	1	4	1	-	-	30	74
Total Releases	9	297	18	27	19	22	14	174	580

GEOGRAPHIC CLUSTERS

EPA performed a geospatial analysis to look for alternative ways to address the backlog. While releases in geographic clusters might not have the same RP, they tend to be located in densely populated areas and might present opportunities to consolidate resources and coordinate efforts. Geographic proximity can call attention to releases in areas of interest such as redevelopment, environmental justice, or ecological sensitivity.

Figure 9. Map of All Open Releases, by IEPA Region



State and local governments can utilize geographic clusters for area-wide planning efforts. EPA's analysis identified 66 percent of releases (5,633 releases) located within a one-mile radius of five or more releases (Figure 9 to the right). Of these releases, 40 percent (3,390 releases) are located within a one-mile radius of 10 or more releases. Approaching the assessment and cleanup needs of an area impacted by LUSTs can be more effective than focusing on individual sites in isolation from the adjacent or surrounding area. Considering geographically-clustered releases might pave the way for new community-based revitalization efforts, utilize economies of scale to yield benefits such as reduced equipment costs, and present opportunities to develop multi-site cleanup strategies, especially at locations with commingled contamination. EPA encourages states to look for opportunities for resource consolidation and area-wide planning but also recognizes that this approach is best geared to address targeted groups of releases as opposed to a state-wide opportunity for every cluster of releases. EPA intends to conduct further geospatial analyses on clusters of releases in relation to RPs, highway corridors, local geologic and hydrogeologic settings, groundwater resources, and/or communities with environmental justice concerns. These analyses might reveal additional opportunities for backlog reduction.

Illinois Finding

66 percent of releases are clustered within a one-mile radius of five or more releases.

Potential Opportunity	Releases
Target releases within close proximity for resource consolidation opportunities.	Targeted Number of Releases[23]

DATA MANAGEMENT

Multiple database limitations prevent a full assessment of the backlog and associated strategies for backlog reduction. For IEPA to be able to reduce its backlog of open LUST cleanups, it needs access to up-to-date information regarding stalled cleanups, releases nearing cleanup completion and closure, and the types of remedial technologies that work in different geological settings across the state. Basic data such as media contaminated, risk level, and financial responsibility mechanism are not tracked in IEPA's LIT database. In addition, 33 percent of releases (2,821 open releases) are not assigned to a project manager. Project managers are assigned on an as-needed basis, indicating that these releases are inactive and little or no data are known about them. With no project managers assigned, any data on these releases will remain unknown to IEPA staff and will remain absent from the database. Additional improvements to database management could allow for easier overall program management as well as provide an improved tool for developing strategies to reduce the cleanup backlog.

Illinois Finding

Several key data fields are not included, consistently maintained, or routinely tracked in the LIT database.

Potential Opportunity	Releases
Improve LIT database to enhance program management and backlog reduction efforts.	Variable number of releases

23 Opportunities marked as "targeted number of releases" relate to geographic opportunities that will address a limited number of releases within select designated geographic areas.

Illinois LUST Program Contact Information

Illinois Environmental Protection Agency
Bureau of Land
Division of Remediation Management
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
Springfield, IL

Mailing Address:
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Springfield, IL 62702

Phone: 217-782-6762
Fax: 217-524-4193

www.epa.state.il.us/land/lust/index.html

CONCLUSION

In this state chapter, EPA presented the analysis of LUST data submitted by IEPA and highlighted information on Illinois' LUST program. Based on the analytic results, EPA identified potential opportunities that could be used to address specific backlog issues in Illinois. Over the course of the entire study, EPA also analyzed data from 13 other states. Findings and opportunities that apply to all 14 states are discussed in the national chapter of the report. Each opportunity represents one potential approach among many to address the backlog. Discussion of the opportunities as a whole is intended as a starting point for further conversations among EPA, IEPA, and the other states on strategies to reduce the backlog. Development of the strategies might include targeted data collection, reviewing particular case files, analyzing problem areas, and sharing best practices. The strategies could involve actions from EPA, such as using additional program metrics, targeting resources for specific cleanup actions, clarifying and developing guidance, and revising policies. EPA, in partnership with the states, is committed to reducing the backlog of confirmed UST releases and to protecting the nation's groundwater, land, and the communities affected by these releases.

CHAPTER NOTES

ILLINOIS DATA BY ATTRIBUTE

The following table provides details on the data elements of interest in this analysis. Data were provided by IEPA staff in 2008 and 2009 for use in this analysis. Several data elements of interest could not be addressed with the information available. All available data elements were analyzed and only those data elements that revealed informative patterns of interest were included in the report.

Data Element	Illinois Data	Use in Analysis
Administrative Cost	Data were obtained from the "USt_fund_administrative_expenses_summary.xls" file.	Included in the "Program Summary" section and in the national chapter.
Age	Age was calculated for closed releases by subtracting the confirmed release date from the closure date and dividing by 365. Age was calculated for open releases by subtracting the confirmed release date from the data date and dividing by 365. Any values less than -.1 were left blank. Values between -.1 and 0 were counted as 0. All dates were rounded to one decimal point. Ages of releases with insufficient or invalid data were left blank.	Variable in all analyses.
Cleanup Financing	Data were obtained from the "Deduct_Applied" data field in table "tblRequests" from Illinois' online database "LITData.mdb." Releases that had at least one non-zero record in "Deduct_Applied" were marked as "State Funded" for their cleanup financing.	Examined in the "Cleanup Financing" section.
Cleanup Standards	No site-specific data available.	State-wide standards examined in the national chapter.
Closure Date	Data were obtained from the "NFR_NFA" data field in the "INCIDENTS" table from Illinois' online database "LITData.mdb."	Included in the calculation of release age.
Confirmed Release Date	Data were obtained from the "IEMA_DATE" data field in the "INCIDENTS" table from Illinois' online database "LITData.mdb." This date is the date on which a release was reported. Because there was no data field available for the confirmed release date, this date was used.	Included in the calculation of release age.
Data Date	March 6, 2009 is used for all records. This is the date the data were downloaded.	Included in the calculation of release age.
Federally-Regulated LUST Releases	Data were obtained from the "NFR_NFA," "NONLUST," "pre_74," and "SEC_57_5G" data fields in table "INCIDENTS" from Illinois' online database "LITData.mdb." Any releases that had entries in "SEC_57_5G," "NONLUST," or "pre_74" and did not have an entry in "NFR_NFA" were marked as not federally regulated. The remaining releases were marked as federally regulated.	Identifies the appropriate universe of releases for analysis.
Free Product	No data available.	Not Applicable (NA).
IEPA Region	Indicates the IEPA Regional Office jurisdiction in which a release falls. Data were obtained from the "REGIONNAME" field in Illinois' online database "LITData.mdb."	Examined in the "Regional Backlogs" section.
Institutional and Engineering Controls	Data were obtained from multiple data fields in table "INCIDENTS" from Illinois' online database "LITData.mdb." Releases that had any of the following data fields checked were marked as having institutional or engineering controls: Barrier_Oth, Barrier_Oth_desc, Barrier_Pav, Barrier_Soil, Barrier_Stru, ELUC_Eng_Bar, ELUC_GW_Use, ELUC_IC_Land_Use, ELUC_Other, ELUC_Other_Desc, ELUC_Soil_Hand, ELUC_Worker, IC_GW_Use, IC_Indust_Com, IC_Ordinance, IC_Other, IC_Other_desc, IC_Worker. These data fields are only populated when a release is closed.	Examined in the "Cleanup Standards" section and in the national chapter.

Data Element	Illinois Data	Use in Analysis
Latitude and Longitude	Data were obtained from the "LATITUDE" and "LONGITUDE" fields in the "GIS_DATA" table from Illinois' online database "LITData.mdb." Where possible, coordinates for releases without existing latitude and longitude values were obtained by EPA staff by geocoding address and street locations.	Used in geospatial analysis calculating the number of open releases within a one-mile radius of other open releases.
Media	Data were obtained from the "Event_Type" field from the "EVENTS" and "T16EVENTs" tables in Illinois' online database "LITData.mdb." When a release had one of the groundwater reports, such as "Groundwater Monitoring Report received," or "Groundwater Monitoring Report/Low Priority [year 1]," it was marked as having groundwater contamination. For all other releases, "unknown" media type was used.	Data not suitable for analysis.
Methyl Tertiary Butyl Ether (MTBE)	Data were obtained from the "MTBE_40ppb" data field in table "INCIDENTS" from Illinois' online database "LITData.mdb." When a release was marked as ="-1" in this data field, it was marked as having MTBE. Illinois started to track this data field on June 1, 2002. Therefore, it is an incomplete data set.	Data not suitable for analysis.
Monitored Natural Attenuation (MNA)	No data available.	NA
Number of Releases per PRP	Calculated as the total number of open releases associated with a unique PRP name.	Examined in the "Number of Releases per PRP" section.
Orphan	No data available.	NA
Proximity	Geospatial analysis performed by EPA revealed the number of other open releases located within a one-mile radius of each open release.	Examined in the "Geographic Clusters" section.
PRP	Data were obtained from the "NAME" and "CONTACT" fields in the "PRP" table from Illinois' online database "LITData.mdb." When PRP name was blank, PRP contact name was used.	Used to calculate the number of releases associated with each unique PRP.
Public Spending	Data were obtained from the "Amt_Paid" data field in the "tblRequests" table from Illinois' online database "LITData.mdb." The reimbursement amount was adjusted for inflation using the 2008 Consumer Price Index based on the year of the date recorded in the "Voucher_Date" data field in the "tblRequests" table. When there was not a voucher date available, the midyear was used (for closed releases, midyear is the halfway point between release date and closure date; for open releases, midyear is the halfway point between release date and data date).	Examined in the "Cleanup Financing" section and in the national chapter.
Release Priority	Illinois uses a "first come, first served" model and does not currently have a priority system.	NA
Remediation Technology	Data were obtained from the "ALT_TECH" field in Illinois' online database "LITData.mdb."	No informative patterns were identified.
RP Recalcitrance	Data were obtained from the "Event_Type" and "Event Date" fields in the "EVENTS" and "T16EVENTs" tables in Illinois' online database "LITData.mdb." When a release had a 20-day report or a 45-day report due but did not have a record of that event actually occurring on time, it was marked as having a recalcitrant party.	No informative patterns were identified.
Staff Workload	Calculated from the total number of unique project managers listed in the "Project_Managers.docx" file and the total number of open releases in Illinois.	Examined in the "Program Summary" section and in the national chapter.

Data Element	Illinois Data	Use in Analysis
Stage of Cleanup	Data were obtained from the "Event_Type" data field in the "EVENTS" and "T16EVENTs" tables in Illinois' online database "LITData.mdb." When a release had one of the several events indicating that it was in remediation, such as "Corrective Action Plan received," it was marked as being in the Remediation stage; when a release had one of the several events that indicate it was in assessment, such as "Site Investigation Plan," it was marked as being in the "Site Assessment" stage; when a release was open but did not have any of the events indicating that it was in the Site Assessment or Remediation stages, it was marked as being in the "Confirmed Release" stage. Closed releases were marked as "Closed" (see Stage of Cleanup Reference Table).	Variable in all analyses.
Status	Data were obtained from the "NFR_NFA" field in the "INCIDENTS" table from Illinois' online database "LITData.mdb." Any releases that had a "NFR_NFA" date were marked as "Closed;" other releases were marked as "Open."	Identifies the appropriate universe of releases for tree analysis.
Voluntary Cleanup Program	Data were obtained from the "TRANSFER" field in the "INCIDENTS" table from Illinois' online database "LITData.mdb." "TRANSFER" is a free-text data field. A manual search was performed to extract releases with a "VSRU" comment in this data field, which indicates participation in Illinois' voluntary cleanup program.	No informative patterns were identified.

STAGE OF CLEANUP REFERENCE TABLE

Each release was assigned to a specific stage of cleanup for this analysis, based on the most recent IEPA cleanup event. Releases for which no event was documented in the LIT database could not be assigned to either the Remediation stage or Site Assessment stage, and were classified as Confirmed Release stage.

Event Description	Stage of Cleanup
No event listed in database	Confirmed Release
Deferred Remediation Election Letter received	Site Assessment
Rescind Site Classification Deferral	Site Assessment
Site Assessment Report received	Site Assessment
Amended Site Classification Budget	Site Assessment
Amended Site Classification Work Plan	Site Assessment
Amended Site Investigation Plan	Site Assessment
Amended Site Investigation Plan Budget	Site Assessment
Site Classification Work Plan Budget	Site Assessment
Site Classification Completion Report	Site Assessment
Site Classification Completion Report Addendum	Site Assessment
Site Classification Work Plan	Site Assessment
Site Investigation Budget Summary Stage 1	Site Assessment
Site Investigation Completion Report	Site Assessment
Site Investigation Plan	Site Assessment
Site Investigation Plan Budget	Site Assessment

Event Description	Stage of Cleanup
Site Investigation Stage 1 Plan	Site Assessment
Site Investigation Stage 2 Plan	Site Assessment
Site Investigation Stage 3 Plan	Site Assessment
Site Investigation Work Plan	Site Assessment
Site Investigation Work Plan Budget	Site Assessment
Site Investigation Plan Budget Stage 1	Site Assessment
Site Investigation Plan Budget Stage 2	Site Assessment
Site Investigation Plan Budget Stage 3	Site Assessment
Site Investigation Actual Costs Stage 1	Site Assessment
Site Investigation Actual Costs Stage 2	Site Assessment
Site Investigation Actual Costs Stage 3	Site Assessment
Approved Plan Letter sent	Remediation
Corrective Action Completion Report received	Remediation
Corrective Action Plan received	Remediation
Corrective Action Plan Addendum received	Remediation
Groundwater Monitoring Zone Letter sent	Remediation
Groundwater Monitoring Zone Letter sent	Remediation
Groundwater Monitoring Report received	Remediation
Amended Corrective Action Plan Budget	Remediation
Amended Corrective Action Plan	Remediation
Amended LP Corrective Action Plan Budget	Remediation
Corrective Action Plan Budget	Remediation
Corrective Action Completion Report	Remediation
Corrective Action Plan	Remediation
Low Priority Corrective Action Plan Budget	Remediation
Low Priority Corrective Action Plan	Remediation
Groundwater Monitoring Report (Miscellaneous)	Remediation
Groundwater Monitoring Report/Low Priority [year 1]	Remediation
Groundwater Monitoring Report/Low Priority [year 2]	Remediation
Groundwater Monitoring Report/Low Priority [year 3]	Remediation