

**U.S. Environmental Protection Agency
Office of Solid Waste and Emergency Response**

EVALUATION OF THE BROWNFIELDS PROGRAM

July 2012

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Acknowledgements

The *Evaluation of 2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants* was conducted by the Office of Solid Waste and Emergency Response (OSWER) Center for Program Analysis in partnership with the Office of Brownfields and Land Revitalization and EPA Regional Offices.

Introduction

The U.S. Environmental Protection Agency's Brownfields Program is designed to empower states, communities, and other stakeholders to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse contaminated or formerly contaminated land. Brownfields grants serve as the foundation of the Brownfields Program and support land revitalization efforts by funding environmental site assessment, cleanup, and job training activities. Since passage of the Small Business Liability Relief and Brownfields Revitalization Act of 2002 (the "Brownfields Law"), EPA has competitively awarded 1,454 assessment grants totaling \$324.6 million, 133 grants to capitalize revolving loan funds totaling \$158.5 million, and 751 cleanup grants totaling \$140.8 million.

The *Evaluation of 2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants* is the first national program evaluation of the outcomes, efficiencies, and economic benefits produced by Brownfields grants. The main purposes of the evaluation are as follows:

1. Analyze property milestones toward land revitalization achieved by 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants.
2. Identify opportunities for improving the management and efficiencies of Brownfields assessment, revolving loan fund, and cleanup grants.
3. Estimate the economic benefits caused by Brownfields cleanup grants through use of rigorous, quasi-experimental designs.

The report is divided into three parts according to the main purposes of the evaluation. Each part summarizes the data sources, methods, and main results. The results of individual analyses are presented in more detailed tables and figures at the end of each section of results.

Part I analyzes property milestones toward land revitalization achieved by 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants. The main analyses follow 8,294 properties across the major stages of land revitalization, stratifying results based on each type of Brownfields grant and on whether cleanup was required at the property. Additional analyses examine progress toward land revitalization following different levels of environmental assessment completed, baseline property demographics leading to cleanup and redevelopment, and variation in property outcomes across EPA Regions.

Part II examines the management, outputs, and efficiencies of 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants. The main analyses combine results from Part I with data on financial obligations and draw downs to calculate the efficiency with which assessment grants produce environmental assessments and revolving loan funds and cleanup grants produce cleanups. Additional analyses examine individual grant outputs, such as the number of property milestones and Government Performance and Results Act (GPRA) accomplishments achieved per grant, by type of grant, EPA Region, and award year.

Part III estimates the casual effects of 2003-2008 Brownfields cleanup grants on local property values. The analyses involve two quasi-experiments: a difference-in-differences design that compares changes in housing values before and after cleanup among homes near a Brownfield vs. homes farther away from a Brownfield; and a regression discontinuity design based on the 2003-2008 Brownfields cleanup grant competition that compares changes in housing values near Brownfields that received cleanup grant funding vs. changes in housing values near Brownfields that did not receive cleanup grant funding.

PART I.

**Property Milestones toward Land Revitalization Achieved by
2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants**

Data and Methods

The following section describes the data sources, data collection, and additional steps taken prior to analysis to improve information quality. The section concludes with a discussion of methods and assumptions.

EPA chose to restrict the evaluation to properties funded by 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants. Although EPA awarded pilot assessment and revolving loan fund grants prior to passage of the Small Business Liability Relief and Brownfields Revitalization Act of 2002, comprehensive information about properties was not available until the post-law period. In addition, at the time of data collection, Brownfields grants awarded after 2008 were still within their three-year performance period and therefore had incomplete information reported. Given these data limitations, EPA determined that properties funded by Brownfields grants awarded solely outside the 2003-2008 period were not suitable for analysis.

Data Sources

Data sources for analysis included EPA's Assessment, Cleanup, and Redevelopment Exchange System (ACRES), an online database for Brownfields grant recipients to electronically submit property information to EPA; supplemental information on property activities from EPA Regional Offices; and demographic variables summarized at the block group level from the 2000 Census of Population and Housing. Data management was performed using SAS® 9.2 software (SAS Institute Inc., 2008).

Data Collection and Quality Improvements

As part of the evaluation, EPA conducted a large-scale data collection to improve the property information contained in the ACRES database. EPA sent letters to all 2003-2008 Brownfields grant recipients and provided them with a summary of the most current information EPA had concerning assessment, cleanup, and redevelopment at the properties associated with their grants. The letters requested that Brownfields grant recipients submit updated information about these properties, if necessary, and provided them with instructions for entering this information in the ACRES database.

In addition to collecting updated property information from grant recipients, EPA implemented a process to improve the geographic information about properties funded by 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants. Although Brownfields grant recipients enter geographic information about properties in the ACRES database, EPA sought to improve the accuracy of this information prior to conducting demographic and property value analyses. EPA began the process by geocoding property addresses using the U.S. Streets Geocoding Service in ArcGIS Desktop® 10.0 software (ESRI Inc., 2010). The automated geocoding service indicated whether or not the property address could be matched and then assigned a score based on the strength of the match. EPA determined the latitude and longitude of property addresses based on the following criteria:

- For property addresses that matched with a perfect score, EPA recorded the latitude and longitude without making further changes. This step was completed for all properties funded by 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants.
- For property addresses that matched without a perfect score, EPA individually verified the correct property address, latitude, and longitude through correspondence with EPA Regional Offices and grant recipients before recording this information. This step was completed for all properties funded by 2003-2008 Brownfields revolving loan fund and cleanup grants. Properties funded solely by 2003-2008 assessment grants were excluded due to resource constraints and because geographic analysis was not planned for these properties.
- For property addresses that could not be matched or that could not be individually verified, EPA used the latitude and longitude entered in the ACRES database by grant recipients after performing several quality checks. Properties with missing geocoordinates or with geocoordinates that lacked sufficient precision to identify the property within 10 meters (i.e., latitude or longitude reported with fewer than four decimal places) were flagged for follow-up with EPA Regional Offices and grant recipients. This step was completed for all properties funded by 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants.

Methods

EPA queried the ACRES database (data accessed July 11, 2011) to identify the properties funded by 2003-2008 assessment, revolving loan fund, and cleanup grants, as well as the activities reported on these properties. Using the start and completion dates of reported property activities, EPA established a chronology for each property that spanned the major stages of land revitalization:

1. No Assessment Started
2. Assessment Started
3. Assessment Complete
4. Cleanup Required but Not Started
5. Cleanup Started
6. Cleanup Complete
7. Ready for Reuse
8. Redevelopment Started
9. Redevelopment Complete

Properties progress through the above milestones in sequence. For example, properties that have not completed assessment or that required cleanup but have not completed cleanup could not be classified as ready for reuse. On the other hand, properties that completed assessment and did not require cleanup could be classified as ready for reuse without undergoing cleanup activity. The only exception to the above sequence concerns situations in which different portions of a property were simultaneously undergoing different types of activities (e.g., cleanup was started on one portion of the property while redevelopment was started on another portion). For the purposes of this evaluation, EPA classified the property based on the furthest milestone toward land revitalization achieved.

EPA also determined the highest level of assessment completed at properties funded by 2003-2008 Brownfields assessment grants. The ACRES database contains start and completion dates for three types of assessments. A Phase I Environmental Site Assessment involves visual inspection of the property and a historical review of records to identify whether potential environmental contamination exists. If a Phase I Environmental Site Assessment identifies potential environmental contamination, then a Phase II Environmental Site Assessment may be performed. A Phase II Environmental Site Assessment involves actual sampling of the site to confirm or deny the presence of contamination. Finally, a Supplemental Environmental Site Assessment may be performed if further sampling and characterization of contamination is required prior to starting cleanup.

The ACRES database does not contain a field to denote that no further assessment is needed at the property. As a result, for the purposes of this evaluation, EPA considered a property to have completed assessment only when a Phase I, Phase II, or Supplemental Environmental Site Assessment was completed and no further assessment was in progress.

For properties funded by 2003-2008 Brownfields assessment grants that had also completed assessment, EPA classified properties based on whether cleanup was required, cleanup was not required, or the cleanup requirement was not reported. Properties funded by 2003-2008 revolving loan fund and cleanup grants were classified as requiring cleanup given that these funds are used exclusively for cleanup activities.

Finally, for properties funded by 2003-2008 Brownfields revolving loan fund and cleanup grants, EPA conducted an analysis of baseline property demographics leading to cleanup and redevelopment. Demographic variables of interest included median household income, percentage of households in poverty, percentage of the labor force that is unemployed, percentage of housing units that are vacant, and median housing values. Demographic variables were summarized at the block group level from the 2000 Census of Population and Housing and matched to each property. The block group level was selected because it represented the smallest geographic unit for which the demographic variables of interest were publicly available. The block group associated with each property was identified using ArcGIS Desktop® 10.0 software (ESRI Inc., 2010). Statistical analyses were conducted using SAS® 9.2 software (SAS Institute Inc., 2008).

Limitations

A limitation of the ACRES database is that property information is reported by Brownfields grant recipients. While EPA project officers must approve the information reported, Brownfields grant recipients are only required to report on properties during the three-year performance period of their grant. Downstream property activities like redevelopment may not be expected to occur during this period and may not be reported in the ACRES database as a result. The data collection described above was an effort to address this limitation by supplementing the ACRES database with property activities that may have occurred since an award closed. Nonetheless, the property milestones toward land revitalization calculated in the following sections should be interpreted as lower bounds.

Results

The following section summarizes the main results concerning property milestones toward land revitalization achieved by 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants. The results of individual analyses are presented in tables and figures at the end of the section.

EPA identified 8,294 properties funded by 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants. Of this total, 7,787 properties (94%) were funded by assessment grants, 234 properties (2.8%) were funded by revolving loan funds, and 449 properties (5.4%) were funded by cleanup grants. The sum of these subtotals exceeds 8,294 because 169 properties (2.0%) were funded by more than one type of Brownfields grant. Table 1 presents the number of properties funded by each type of Brownfields grant by EPA Region. Figure 1 shows their geographic distribution across the U.S.

EPA tracked each property to the furthest milestone toward land revitalization achieved, stratifying results based on whether cleanup was required, cleanup was not required, or the cleanup requirement was not reported. The results are presented in Figure 2 and Tables 2A-2C. A total of 7,434 of 8,294 properties (90%) completed assessment. Of these 7,434 properties, 1,528 properties (21%) reported that cleanup was required, 1,577 properties (21%) reported that cleanup was not required, and 4,329 properties (58%) did not report whether cleanup was required.

Following the group of 1,528 properties that reported cleanup was required, 764 properties (50%) started cleanup, 618 properties (40%) completed cleanup, 546 properties (36%) were made ready for reuse, 390 properties (26%) started redevelopment, and 76 properties (5.0%) completed redevelopment. Following the group of 1,577 properties that reported cleanup was not required, 1,175 properties (77%) were made ready for reuse, 302 properties (20%) started redevelopment, and 79 properties (5.2%) completed redevelopment. Following the group of 4,329 properties that did not report whether cleanup was required, 174 properties (4.0%) were made ready for reuse, 169 properties (3.9%) started redevelopment, and 13 properties (0.3%) completed redevelopment. Taken as a whole, of the 8,294 properties evaluated, 1,895 properties (23%) were made ready for reuse, 861 properties (10%) started redevelopment, and 168 properties (2.0%) completed redevelopment.

EPA conducted separate analyses of property milestones toward land revitalization achieved by each type of Brownfields grant. Of the 7,787 properties funded by 2003-2008 Brownfields assessment grants, 6,927 properties (89%) completed assessment, 1,597 properties (21%) were made ready for reuse, 654 properties (8.4%) started redevelopment, and 131 properties (1.7%) completed redeveloped. The results are presented in Figure 3 and Table 3. The results provide evidence that Brownfields assessment grants provide benefits earlier in the land revitalization process by identifying properties for reuse that do not require cleanup. For example, 1,379 of the 1,597 properties (86%) funded by 2003-2008 Brownfields assessment grants and made ready for reuse achieved this milestone without a cleanup. Similarly, 506 of the 654 properties (77%) funded by 2003-2008 Brownfields assessment grants with redevelopment started achieved this milestone without a cleanup. These results corroborate the finding that a majority of properties funded by 2003-2008 Brownfields assessment grants that completed assessment and reported whether cleanup was required did not require cleanup. Table 4 shows that

1,577 of the 2,598 properties (61%) that completed assessment and reported whether cleanup was required did not require cleanup. These results should be understood within the overall context of underreported assessment results. In particular, a total of 4,329 of the 6,927 properties (62%) that completed assessment did not report whether cleanup was required.

EPA determined the highest level of assessment completed at the 7,787 properties funded by 2003-2008 Brownfields assessment grants and tracked each property to the furthest milestone toward land revitalization achieved. The results are presented in Table 5. Of these 7,787 properties, 365 properties (4.7%) had not started assessment, 495 properties (6.4%) had assessment in progress, 4,575 properties (59%) had completed assessment with a Phase I Environmental Site Assessment, 1,773 properties (23%) had completed assessment with a Phase II Environmental Site Assessment, and 579 properties (7.4%) had completed assessment with a Supplemental Environmental Site Assessment.

The analysis reveals significant differences in progress toward land revitalization by the level of assessment completed. For example, of the 4,575 properties that completed assessment with a Phase I Environmental Site Assessment, 748 properties (16%) were made ready for reuse, 213 properties (4.7%) started redevelopment, and 28 properties (0.6%) completed redevelopment. However, a substantially higher percentage of properties that completed assessment with a Phase II or Supplemental Environmental Site Assessment were made ready for reuse. Of the 1,773 properties that completed assessment with a Phase II Environmental Site Assessment, 671 properties (38%) were made ready for reuse, 333 properties (19%) started redevelopment, and 74 properties (4.1%) completed redevelopment. Similarly, of the 579 properties that completed assessment with a Supplemental Environmental Site Assessment, 178 properties (31%) were made ready for reuse, 108 properties (19%) started redevelopment, and 29 properties (5.0%) completed redevelopment.

Table 6 and Table 7A-7C stratify these results by whether cleanup was required, cleanup was not required, or the cleanup requirement was not reported. Of the 4,575 properties that completed assessment with a Phase I Environmental Site Assessment, 193 properties (4.2%) reported that cleanup was required, 887 properties (19%) reported that cleanup was not required, and 3,495 properties (76%) did not report whether cleanup was required. Of the 1,773 properties that completed assessment with a Phase II Environmental Site Assessment, 551 properties (31%) reported that cleanup was required, 595 properties (34%) reported that cleanup was not required, and 627 properties (35%) did not report whether cleanup was required. Of the 579 properties that completed assessment with a Supplemental Environmental Site Assessment, 277 properties (48%) reported that cleanup was required, 95 properties (16%) reported that cleanup was not required, and 207 properties (36%) did not report whether cleanup was required. Within each assessment category, nearly all properties that did not report whether cleanup was required also did not indicate further progress toward land revitalization. For example, 3,404 of the 3,495 properties (97%) that completed assessment with a Phase I Environmental Site Assessment and did not report whether cleanup was required also did not indicate further progress toward land revitalization.

Turning to the 234 properties funded by 2003-2008 Brownfields revolving loan funds, 184 properties (79%) started cleanup, 144 properties (62%) completed cleanup, 122 properties (52%) were made ready

for reuse, 91 properties (39%) started redevelopment, and 29 properties (12%) completed redevelopment. The results are presented in Figure 4 and Table 9.

A similar pattern of results emerges for the 449 properties funded by 2003-2008 Brownfields cleanup grants. Of these 449 properties, 373 properties (83%) started cleanup, 305 properties (68%) completed cleanup, 262 properties (58%) were made ready for reuse, 171 properties (38%) started redevelopment, and 21 properties (4.7%) completed redevelopment. The results are presented in Figure 5 and Table 11.

EPA also conducted an analysis of baseline property demographics leading to cleanup and redevelopment for properties funded by 2003-2008 Brownfields revolving loan fund and cleanup grants. Demographic variables of interest included median household income, percentage of households in poverty, percentage of the labor force that is unemployed, percentage of housing units that are vacant, and median housing values. Table 13 shows the mean values of these variables for the group of properties funded by 2003-2008 Brownfields revolving loan funds and the group of properties funded by 2003-2008 Brownfields cleanup grants. Kruskal-Wallis tests indicate no statistically significant differences in baseline property demographics between the two groups.

Table 14 stratifies these results based on the subsequent cleanup and redevelopment status of the group of properties funded by 2003-2008 Brownfields revolving loan funds and the group of properties funded by 2003-2008 Brownfields cleanup grants. Kruskal-Wallis tests indicate that revolving loan fund properties that complete cleanup are, on average, in much better off areas at baseline than are revolving loan fund properties that do not complete cleanup. In contrast, cleanup grant properties that complete cleanup do not statistically differ at baseline from cleanup grant properties that do not complete cleanup. A similar pattern holds for subsequent redevelopment status.

Since Brownfields revolving loan funds are permitted to finance cleanup with both loans and subgrants, EPA conducted further analyses based on each type of funding source. A total of 175 of the 234 properties (75%) funded by 2003-2008 Brownfields revolving loan funds reported the type of funding source. Of these 175 properties, 78 properties (45%) were funded by loans only, 80 properties (46%) were funded by subgrants only, and 17 properties (9.7%) were funded by both loans and subgrants. Table 15 shows that that each group of properties achieved similar progress toward land revitalization.

Finally, EPA analyzed baseline property demographics leading to cleanup and redevelopment based on each type of funding source. The results are presented in Tables 16-17. Kruskal-Wallis tests indicate no statistically significant differences in baseline property demographics among the groups of properties funded by each type of funding source. The results are then stratified based on the subsequent cleanup and redevelopment status of the group of properties funded by any loan and the group of properties funded by any subgrant. Kruskal-Wallis tests indicate that properties funded by loans that complete cleanup are, on average, in much better off areas at baseline than properties funded by loans that do not complete cleanup. In contrast, properties funded by subgrants that complete cleanup do not statistically differ at baseline from properties funded by subgrants that do not complete cleanup. A similar pattern did not emerge for subsequent redevelopment status.

Figure 1.

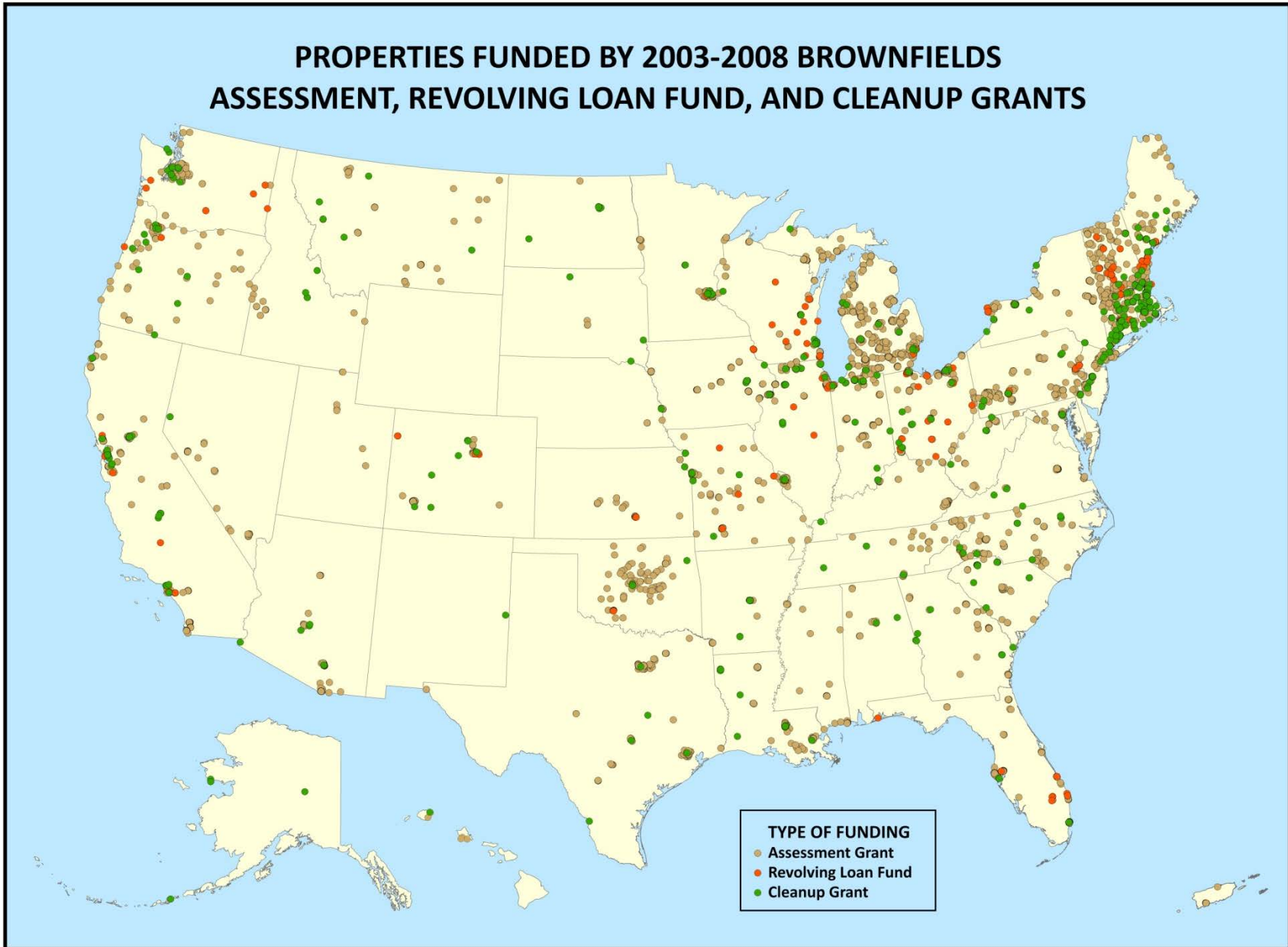
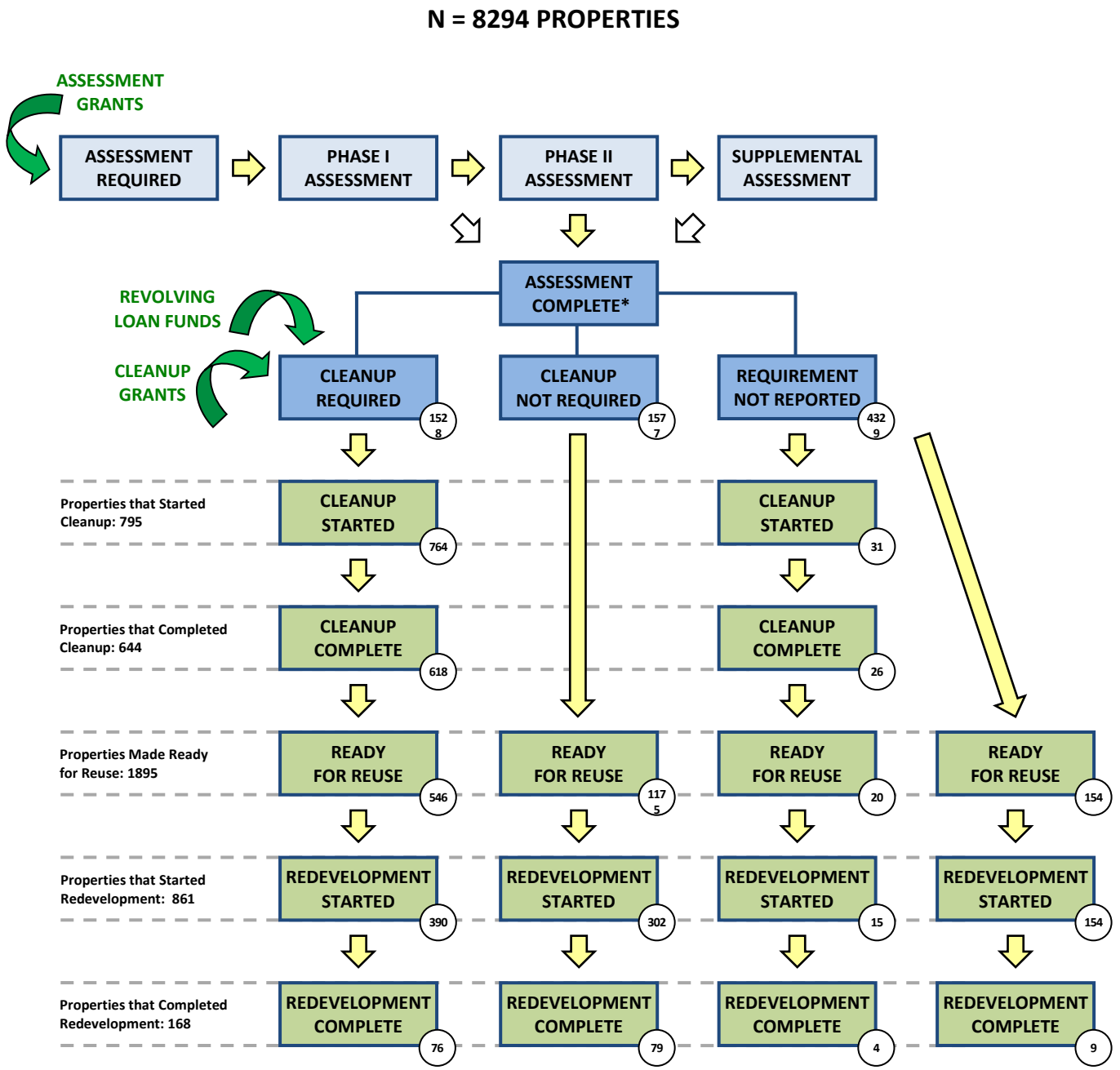


Table 1. Properties Funded by 2003-2008 Brownfields ARC Grants by EPA Region

EPA Region	Properties Funded by Brownfields ARC Grants	Properties Funded by Assessment Grants		Properties Funded by Revolving Loan Funds		Properties Funded by Cleanup Grants	
		Number of Properties	Percent of Region	Number of Properties	Percent of Region	Number of Properties	Percent of Region
Region A	2393	2271	94.9%	61	2.5%	90	3.7%
Region B	1233	1184	96.0%	14	1.1%	42	3.4%
Region C	935	806	86.2%	72	7.7%	134	14.3%
Region D	620	579	93.3%	43	6.9%	16	2.5%
Region E	489	466	95.2%	4	0.8%	26	5.3%
Region F	508	481	94.6%	8	1.5%	25	4.9%
Region G	1152	1125	97.6%	13	1.1%	32	2.7%
Region H	284	242	85.2%	12	4.2%	41	14.4%
Region I	387	363	93.7%	5	1.2%	20	5.1%
Region J	293	270	92.1%	2	0.6%	23	7.8%
Total	8294	7787	93.8%	234	2.8%	449	5.4%

Note: Column totals of properties funded by each type of grant sum to 8470 instead of to 8294 because 169 properties were funded by more than one type of grant. Seven of these 169 properties were funded by all three types of grants, which explains why $8470 - 8294 = 176$.

Figure 2. Property Milestones Achieved by 2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants



Note: The ACRES database does not contain a field to denote that no further assessment is needed at the property. In the above figure, "Assessment Complete" is counted only when a Phase I, Phase II, or Supplemental Assessment is complete and no further assessment is in progress.

Table 2A. Property Milestones Achieved by 2003-2008 Brownfields ARC Grants at Properties Reporting Cleanup Required

Furthest Property Milestone Achieved	Cleanup Not Started		Cleanup Started		Cleanup Complete		All Properties Funded by ARC Grants with Completed Assessments and Reporting Cleanup Required	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
Cleanup Required but Not Started	764	93.5%	0	0.0%	0	0.0%	764	50.0%
Cleanup Started	0	0.0%	146	73.0%	0	0.0%	146	9.5%
Cleanup Complete	0	0.0%	0	0.0%	72	14.0%	72	4.7%
Ready for Reuse	0	0.0%	0	0.0%	156	30.5%	156	10.2%
Redevelopment Started	48	5.8%	50	25.0%	216	42.2%	314	20.5%
Redevelopment Complete	5	0.6%	4	2.0%	67	13.1%	76	4.9%
Total	817	100.0%	200	100.0%	511	100.0%	1528	100.0%

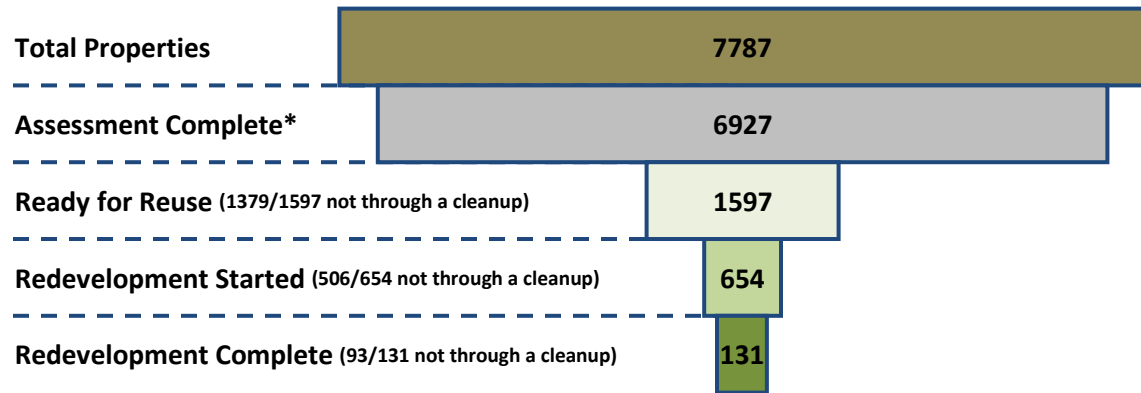
Note: Table is limited to properties with a complete Phase I, Phase II, or Supplemental Assessment and no further assessment in progress.

Table 2B. Property Milestones Achieved by 2003-2008 Brownfields ARC Grants at Properties Reporting Cleanup Not Required

Furthest Property Milestone Achieved	Cleanup Not Started		Cleanup Started		Cleanup Complete		All Properties Funded by ARC Grants with Completed Assessments and Reporting Cleanup Not Required	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
No Assessment Started	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Phase I Assessment Started	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Phase I Assessment Complete	267	16.9%	0	0.0%	0	0.0%	267	16.9%
Phase II Assessment Started	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Phase II Assessment Complete	113	7.1%	0	0.0%	0	0.0%	113	7.1%
Supplemental Assessment Started	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Supplemental Assessment Complete	22	1.3%	0	0.0%	0	0.0%	22	1.3%
Cleanup Required but Not Started	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Cleanup Started	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Cleanup Complete	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Ready for Reuse	873	55.3%	0	0.0%	0	0.0%	873	55.3%
Redevelopment Started	223	14.1%	0	0.0%	0	0.0%	223	14.1%
Redevelopment Complete	79	5.0%	0	0.0%	0	0.0%	79	5.0%
Total	1577	100.0%	0	0.0%	0	0.0%	1577	100.0%

Note: Table is limited to properties with a complete Phase I, Phase II, or Supplemental Assessment and no further assessment in progress.

Figure 3. Property Milestones Achieved by 2003-2008 Brownfields Assessment Grants



Note: The ACRES database does not contain a field to denote that no further assessment is needed at the property. In the above figure, "Assessment Complete" is counted only when a Phase I, Phase II, or Supplemental Assessment is complete and no further assessment is in progress.

Table 5. Property Milestones Achieved by 2003-2008 Brownfields Assessment Grants by Highest Level of Assessment Completed

Furthest Property Milestone Achieved	No Assessment Started		Assessment in Progress		Phase I Assessment Complete		Phase II Assessment Complete		Supplemental Assessment Complete		All Properties Funded by Assessment Grants	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
No Assessment Started	355	97.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	355	4.5%
Phase I Assessment Started	0	0.0%	119	24.0%	0	0.0%	0	0.0%	0	0.0%	119	1.5%
Phase I Assessment Complete	0	0.0%	0	0.0%	3671	80.2%	0	0.0%	0	0.0%	3671	47.1%
Phase II Assessment Started	0	0.0%	253	51.1%	0	0.0%	0	0.0%	0	0.0%	253	3.2%
Phase II Assessment Complete	0	0.0%	0	0.0%	0	0.0%	674	38.0%	0	0.0%	674	8.6%
Supplemental Assessment Started	0	0.0%	68	13.7%	0	0.0%	0	0.0%	0	0.0%	68	0.8%
Supplemental Assessment Complete	0	0.0%	0	0.0%	0	0.0%	0	0.0%	201	34.7%	201	2.5%
Cleanup Required but Not Started	0	0.0%	0	0.0%	141	3.0%	381	21.4%	158	27.2%	680	8.7%
Cleanup Started	1	0.2%	5	1.0%	14	0.3%	31	1.7%	28	4.8%	79	1.0%
Cleanup Complete	0	0.0%	3	0.6%	1	0.0%	16	0.9%	14	2.4%	34	0.4%
Ready for Reuse	0	0.0%	0	0.0%	535	11.6%	338	19.0%	70	12.0%	943	12.1%
Redevelopment Started	8	2.1%	44	8.8%	185	4.0%	259	14.6%	79	13.6%	575	7.3%
Redevelopment Complete	1	0.2%	3	0.6%	28	0.6%	74	4.1%	29	5.0%	135	1.7%
Total	365	100.0%	495	100.0%	4575	100.0%	1773	100.0%	579	100.0%	7787	100.0%

Table 6. Cleanup Requirement by Highest Level of Assessment Completed at Properties Funded by 2003-2008 Brownfields Assessment Grants

Cleanup Requirement	No Assessment Started		Assessment in Progress		Phase I Assessment Complete		Phase II Assessment Complete		Supplemental Assessment Complete		All Properties Funded by Assessment Grants	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
Cleanup Not Required	12	3.2%	63	12.7%	887	19.3%	595	33.5%	95	16.4%	1652	21.2%
Cleanup Required	21	5.7%	142	28.6%	193	4.2%	551	31.0%	277	47.8%	1184	15.2%
Cleanup Requirement Not Reported	332	90.9%	290	58.5%	3495	76.3%	627	35.3%	207	35.7%	4951	63.5%
Total	365	100.0%	495	100.0%	4575	100.0%	1773	100.0%	579	100.0%	7787	100.0%

Table 7A. Property Milestones Achieved by 2003-2008 Brownfields Assessment Grants by Highest Level of Assessment Completed and Cleanup Requirement

Furthest Property Milestone Achieved	Highest Level of Assessment Complete: Phase I Assessment							
	Cleanup Not Required		Cleanup Required		Cleanup Requirement Not Reported		All Properties	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
Phase I Assessment Complete	267	30.1%	0	0.0%	3404	97.3%	3671	80.2%
Cleanup Required but Not Started	0	0.0%	141	73.0%	0	0.0%	141	3.0%
Cleanup Started	0	0.0%	11	5.6%	3	0.0%	14	0.3%
Cleanup Complete	0	0.0%	1	0.5%	0	0.0%	1	0.0%
Ready for Reuse	522	58.8%	11	5.6%	2	0.0%	535	11.6%
Redevelopment Started	82	9.2%	22	11.3%	81	2.3%	185	4.0%
Redevelopment Complete	16	1.8%	7	3.6%	5	0.1%	28	0.6%
Total	887	100.0%	193	100.0%	3495	100.0%	4575	100.0%

Note: Table is limited to properties with a Phase I Assessment complete, no Phase II or Supplemental Assessment complete, and no further assessment in progress.

Table 7B. Property Milestones Achieved by 2003-2008 Brownfields Assessment Grants by Highest Level of Assessment Completed and Cleanup Requirement

Furthest Property Milestone Achieved	Highest Level of Assessment Complete: Phase II Assessment							
	Cleanup Not Required		Cleanup Required		Cleanup Requirement Not Reported		All Properties	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
Phase II Assessment Complete	113	18.9%	0	0.0%	561	89.4%	674	38.0%
Cleanup Required but Not Started	0	0.0%	381	69.1%	0	0.0%	381	21.4%
Cleanup Started	0	0.0%	29	5.2%	2	0.3%	31	1.7%
Cleanup Complete	0	0.0%	11	1.9%	5	0.7%	16	0.9%
Ready for Reuse	307	51.5%	30	5.4%	1	0.1%	338	19.0%
Redevelopment Started	127	21.3%	79	14.3%	53	8.4%	259	14.6%
Redevelopment Complete	48	8.0%	21	3.8%	5	0.7%	74	4.1%
Total	595	100.0%	551	100.0%	627	100.0%	1773	100.0%

Note: Table is limited to properties with a Phase II Assessment complete, no Supplemental Assessment complete, and no further assessment in progress.

Table 7C. Property Milestones Achieved by 2003-2008 Brownfields Assessment Grants by Highest Level of Assessment Completed and Cleanup Requirement

Furthest Property Milestone Achieved	Highest Level of Assessment Complete: Supplemental Assessment							
	Cleanup Not Required		Cleanup Required		Cleanup Requirement Not Reported		All Properties	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
Supplemental Assessment Complete	22	23.1%	0	0.0%	179	86.4%	201	34.7%
Cleanup Required but Not Started	0	0.0%	158	57.0%	0	0.0%	158	27.2%
Cleanup Started	0	0.0%	28	10.1%	0	0.0%	28	4.8%
Cleanup Complete	0	0.0%	13	4.6%	1	0.4%	14	2.4%
Ready for Reuse	44	46.3%	24	8.6%	2	0.9%	70	12.0%
Redevelopment Started	14	14.7%	43	15.5%	22	10.6%	79	13.6%
Redevelopment Complete	15	15.7%	11	3.9%	3	1.4%	29	5.0%
Total	95	100.0%	277	100.0%	207	100.0%	579	100.0%

Note: Table is limited to properties with a Supplemental Assessment complete and no further assessment in progress.

Table 8. Regional Variation in Property Milestones Achieved by Assessment Grants

Furthest Property Milestone Achieved	Region A Properties		Region B Properties		Region C Properties		Region D Properties		Region E Properties	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
No Assessment Started	23	1.0%	43	3.6%	22	2.7%	20	3.4%	54	11.5%
Phase I Assessment Started	30	1.3%	12	1.0%	26	3.2%	5	0.8%	7	1.5%
Phase I Assessment Complete	936	41.2%	738	62.3%	215	26.6%	205	35.4%	164	35.1%
Phase II Assessment Started	61	2.6%	4	0.3%	92	11.4%	14	2.4%	13	2.7%
Phase II Assessment Complete	312	13.7%	31	2.6%	72	8.9%	73	12.6%	43	9.2%
Supplemental Assessment Started	31	1.3%	8	0.6%	17	2.1%	0	0.0%	6	1.2%
Supplemental Assessment Complete	106	4.6%	53	4.4%	17	2.1%	4	0.6%	2	0.4%
Cleanup Required but Not Started	209	9.2%	54	4.5%	115	14.2%	46	7.9%	36	7.7%
Cleanup Started	14	0.6%	4	0.3%	30	3.7%	6	1.0%	1	0.2%
Cleanup Complete	18	0.7%	0	0.0%	9	1.1%	0	0.0%	0	0.0%
Ready for Reuse	227	9.9%	198	16.7%	111	13.7%	114	19.6%	86	18.4%
Redevelopment Started	227	9.9%	33	2.7%	58	7.1%	79	13.6%	53	11.3%
Redevelopment Complete	77	3.3%	6	0.5%	22	2.7%	13	2.2%	1	0.2%
Total	2271	100.0%	1184	100.0%	806	100.0%	579	100.0%	466	100.0%

Furthest Property Milestone Achieved	Region F Properties		Region G Properties		Region H Properties		Region I Properties		Region J Properties	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
No Assessment Started	31	6.4%	55	4.8%	58	23.9%	7	1.9%	42	15.5%
Phase I Assessment Started	16	3.3%	19	1.6%	2	0.8%	0	0.0%	2	0.7%
Phase I Assessment Complete	184	38.2%	779	69.2%	63	26.0%	287	79.0%	100	37.0%
Phase II Assessment Started	27	5.6%	12	1.0%	3	1.2%	1	0.2%	26	9.6%
Phase II Assessment Complete	35	7.2%	55	4.8%	22	9.0%	13	3.5%	18	6.6%
Supplemental Assessment Started	2	0.4%	1	0.0%	1	0.4%	0	0.0%	2	0.7%
Supplemental Assessment Complete	2	0.4%	7	0.6%	2	0.8%	1	0.2%	7	2.5%
Cleanup Required but Not Started	56	11.6%	67	5.9%	40	16.5%	19	5.2%	38	14.0%
Cleanup Started	5	1.0%	9	0.8%	3	1.2%	1	0.2%	6	2.2%
Cleanup Complete	2	0.4%	2	0.1%	1	0.4%	1	0.2%	1	0.3%
Ready for Reuse	36	7.4%	88	7.8%	40	16.5%	25	6.8%	18	6.6%
Redevelopment Started	79	16.4%	22	1.9%	7	2.8%	7	1.9%	10	3.7%
Redevelopment Complete	6	1.2%	9	0.8%	0	0.0%	1	0.2%	0	0.0%
Total	481	100.0%	1125	100.0%	242	100.0%	363	100.0%	270	100.0%

Figure 4. Property Milestones Achieved by 2003-2008 Brownfields Revolving Loan Funds

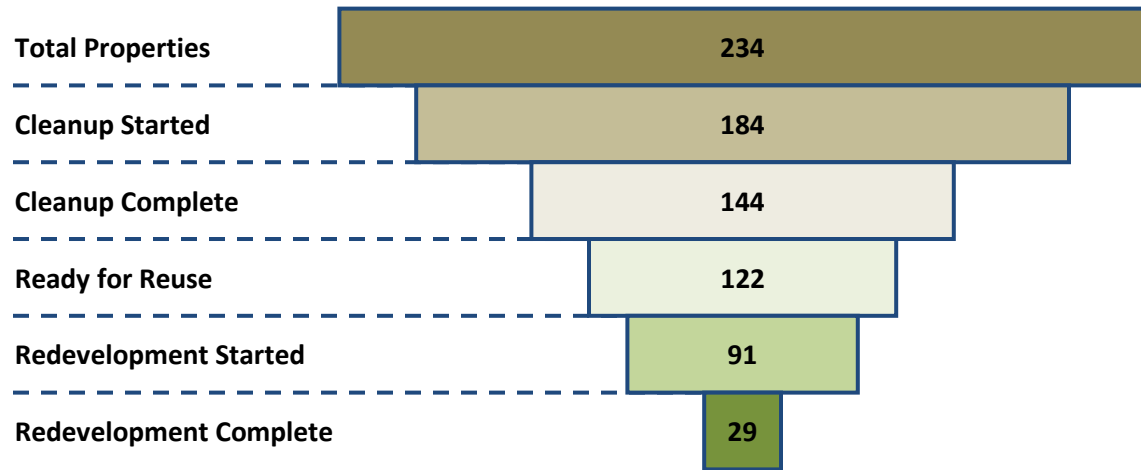


Table 9. Property Milestones Achieved by 2003-2008 Brownfields Revolving Loan Funds by Cleanup Progress

Furthest Property Milestone Achieved	Cleanup Not Started		Cleanup Started		Cleanup Complete		All Properties Funded by Revolving Loan Funds	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
Cleanup Required but Not Started	50	96.1%	0	0.0%	0	0.0%	50	21.3%
Cleanup Started	0	0.0%	40	78.4%	0	0.0%	40	17.0%
Cleanup Complete	0	0.0%	0	0.0%	22	16.7%	22	9.4%
Ready for Reuse	0	0.0%	0	0.0%	31	23.6%	31	13.2%
Redevelopment Started	2	3.8%	11	21.5%	49	37.4%	62	26.4%
Redevelopment Complete	0	0.0%	0	0.0%	29	22.1%	29	12.3%
Total	52	100.0%	51	100.0%	131	100.0%	234	100.0%

Table 10. Regional Variation in Property Milestones Achieved by Revolving Loan Funds

Furthest Property Milestone Achieved	Region A Properties		Region B Properties		Region C Properties		Region D Properties		Region E Properties	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Cleanup Required but Not Started	1	1.6%	1	7.1%	7	9.7%	31	72.0%	0	0.0%
Cleanup Started	11	18.0%	1	7.1%	18	25.0%	2	4.6%	0	0.0%
Cleanup Complete	12	19.6%	3	21.4%	5	6.9%	0	0.0%	0	0.0%
Ready for Reuse	12	19.6%	4	28.5%	4	5.5%	2	4.6%	3	75.0%
Redevelopment Started	15	24.5%	4	28.5%	25	34.7%	5	11.6%	0	0.0%
Redevelopment Complete	10	16.3%	1	7.1%	13	18.0%	3	6.9%	1	25.0%
Total	61	100.0%	14	100.0%	72	100.0%	43	100.0%	4	100.0%

Furthest Property Milestone Achieved	Region F Properties		Region G Properties		Region H Properties		Region I Properties		Region J Properties	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Cleanup Required but Not Started	0	0.0%	5	38.4%	4	33.3%	0	0.0%	1	50.0%
Cleanup Started	1	12.5%	4	30.7%	3	25.0%	0	0.0%	0	0.0%
Cleanup Complete	0	0.0%	0	0.0%	0	0.0%	2	40.0%	0	0.0%
Ready for Reuse	3	37.5%	2	15.3%	1	8.3%	0	0.0%	0	0.0%
Redevelopment Started	4	50.0%	1	7.6%	4	33.3%	3	60.0%	1	50.0%
Redevelopment Complete	0	0.0%	1	7.6%	0	0.0%	0	0.0%	0	0.0%
Total	8	100.0%	13	100.0%	12	100.0%	5	100.0%	2	100.0%

Figure 5. Property Milestones Achieved by 2003-2008 Brownfields Cleanup Grants

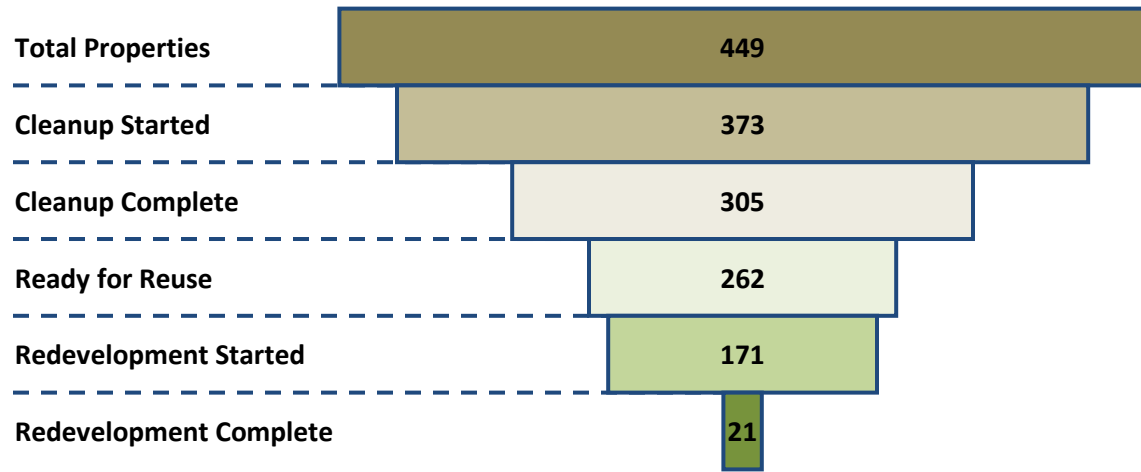


Table 11. Property Milestones Achieved by 2003-2008 Brownfields Cleanup Grants by Cleanup Progress

Furthest Property Milestone Achieved	Cleanup Not Started		Cleanup Started		Cleanup Complete		All Properties Funded by Cleanup Grants	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
Cleanup Required but Not Started	76	96.2%	0	0.0%	0	0.0%	76	16.9%
Cleanup Started	0	0.0%	68	76.4%	0	0.0%	68	15.1%
Cleanup Complete	0	0.0%	0	0.0%	43	15.3%	43	9.5%
Ready for Reuse	0	0.0%	0	0.0%	91	32.3%	91	20.2%
Redevelopment Started	3	3.7%	20	22.4%	127	45.1%	150	33.4%
Redevelopment Complete	0	0.0%	1	1.1%	20	7.1%	21	4.6%
Total	79	100.0%	89	100.0%	281	100.0%	449	100.0%

Table 12. Regional Variation in Property Milestones Achieved by Cleanup Grants

Furthest Property Milestone Achieved	Region A Properties		Region B Properties		Region C Properties		Region D Properties		Region E Properties	
	Percent of Total	Number	Percent of Total	Number	Percent of Total	Percent of Total	Number	Percent of Total	Number	Percent of Total
Cleanup Required but Not Started	13	14.4%	3	7.1%	23	17.1%	7	43.7%	2	7.6%
Cleanup Started	5	5.5%	3	7.1%	39	29.1%	0	0.0%	1	3.8%
Cleanup Complete	20	22.2%	4	9.5%	7	5.2%	1	6.2%	1	3.8%
Ready for Reuse	17	18.8%	10	23.8%	16	11.9%	4	25.0%	8	30.7%
Redevelopment Started	32	35.5%	22	52.3%	38	28.3%	4	25.0%	14	53.8%
Redevelopment Complete	3	3.3%	0	0.0%	11	8.2%	0	0.0%	0	0.0%
Total	90	100.0%	42	100.0%	134	100.0%	16	100.0%	26	100.0%

Furthest Property Milestone Achieved	Region F Properties		Region G Properties		Region H Properties		Region I Properties		Region J Properties	
	Percent of Total	Number	Percent of Total	Number	Percent of Total	Percent of Total	Number	Percent of Total	Number	Percent of Total
Cleanup Required but Not Started	5	20.0%	6	18.7%	4	9.7%	5	25.0%	8	34.7%
Cleanup Started	0	0.0%	9	28.1%	4	9.7%	0	0.0%	7	30.4%
Cleanup Complete	4	16.0%	2	6.2%	1	2.4%	2	10.0%	1	4.3%
Ready for Reuse	7	28.0%	5	15.6%	14	34.1%	6	30.0%	4	17.3%
Redevelopment Started	9	36.0%	10	31.2%	13	31.7%	6	30.0%	2	8.6%
Redevelopment Complete	0	0.0%	0	0.0%	5	12.1%	1	5.0%	1	4.3%
Total	25	100.0%	32	100.0%	41	100.0%	20	100.0%	23	100.0%

Table 13. Baseline Property Demographics by Revolving Loan Fund or Cleanup Grant Funding

Type of Funding	Median Household Income	Percent of Households in Poverty	Percent of Labor Force Unemployed	Percent of Housing Units Vacant	Median Value of Housing Units
Revolving Loan Fund Properties	\$29,240	23.50%	12.30%	13.60%	\$93,502
Cleanup Grant Properties	\$31,136	21.70%	9.80%	10.70%	\$101,793

Note: Kruskal-Wallis tests indicate no statistically-significant differences at the 0.05 level by type of funding. Demographic characteristics for each property are summarized at the block group level from the 2000 Census.

Table 14. Baseline Property Demographics by Type of Cleanup Funding and Resulting Cleanup and Redevelopment Status

Type of Funding and Resulting Cleanup Status	Median Household Income	Percent of Households in Poverty	Percent of Labor Force Unemployed	Percent of Housing Units Vacant	Median Housing Values
Revolving Loan Fund Properties					
Cleanup Not Complete	\$24,377	29.9%	17.4%	18.9%	\$81,965
Cleanup Complete	\$33,026	18.4%	8.3%	9.5%	\$102,485
Cleanup Grant Properties					
Cleanup Not Complete	\$32,132	20.5%	9.8%	10.8%	\$100,789
Cleanup Complete	\$30,538	22.4%	9.7%	10.6%	\$102,395

Type of Funding and Resulting Redevelopment Status	Median Household Income	Percent of Households in Poverty	Percent of Labor Force Unemployed	Percent of Housing Units Vacant	Median Housing Values
Revolving Loan Fund Properties					
No Redevelopment	\$27,382	27.1%	15.3%	17.2%	\$95,498
Redevelopment Started or Complete	\$31,545	18.8%	8.6%	9.1%	\$91,026
Cleanup Grant Properties					
No Redevelopment	\$30,451	22.6%	10.6%	11.9%	\$95,026
Redevelopment Started or Complete	\$31,872	20.7%	8.8%	9.5%	\$109,061

Note: Kruskal-Wallis tests indicating statistically-significant differences at the 0.05 level are bolded. Demographic characteristics for each property are summarized at the block group level from the 2000 Census.

Table 15. Property Milestones Achieved by 2003-2008 Revolving Loan Fund Loans vs. Revolving Loan Fund Subgrants

Furthest Property Milestone Achieved	Funded by RLF Loans only		Funded by RLF Subgrants only		Funded by RLF Loans and RLF Subgrants		All Properties Funded by Revolving Loan Funds	
	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total	Number of Properties	Percent of Total
Cleanup Required but Not Started	0	0.0%	1	1.2%	0	0.0%	1	0.5%
Cleanup Started	13	16.6%	18	22.5%	7	41.1%	38	21.7%
Cleanup Complete	11	14.1%	10	12.5%	0	0.0%	21	12.0%
Ready for Reuse	14	17.9%	12	15.0%	3	17.6%	29	16.5%
Redevelopment Started	27	34.6%	26	32.5%	5	29.4%	58	33.1%
Redevelopment Complete	13	16.6%	13	16.2%	2	11.7%	28	16.0%
Total	78	100.0%	80	100.0%	17	100.0%	175	100.0%

Note: Fifty-nine of 234 Revolving Loan Fund properties do not report their funding source.

Table 16. Baseline Property Demographics by Revolving Loan Fund Loans vs. Revolving Loan Fund Subgrants

Revolving Loan Fund Funding Source	Median Household Income	Percent of Households in Poverty	Percent of Labor Force Unemployed	Percent of Housing Units Vacant	Median Value of Housing Units
Funded by RLF Loans only	\$31,228	20.6%	8.4%	10.7%	\$108,292
Funded by RLF Subgrants only	\$32,508	18.5%	9.3%	9.1%	\$88,558
Funded by RLF Loans and RLF Subgrants	\$28,939	23.0%	8.6%	10.8%	\$84,065

Note: Kruskal-Wallis tests indicate no statistically-significant differences at the 0.05 level by funding source. Demographic characteristics for each property are summarized at the block group level from the 2000 Census. Fifty-nine of 234 Revolving Loan Fund properties do not report their funding source.

Table 17. Baseline Property Demographics by Revolving Loan Fund Funding Source and Resulting Cleanup and Redevelopment Status

Revolving Loan Fund Funding Source and Resulting Cleanup Status	Median Household Income	Percent of Households in Poverty	Percent of Labor Force Unemployed	Percent of Housing Units Vacant	Median Housing Values
Any Revolving Loan Fund Loans					
Cleanup Not Complete	\$24,114	27.1%	12.3%	13.2%	\$79,967
Cleanup Complete	\$33,481	18.6%	7.0%	9.8%	\$113,482
Any Revolving Loan Fund Subgrants					
Cleanup Not Complete	\$30,509	20.8%	8.1%	9.1%	\$80,141
Cleanup Complete	\$32,469	18.7%	9.7%	9.6%	\$91,024

Revolving Loan Fund Funding Source and Resulting Redevelopment Status	Median Household Income	Percent of Households in Poverty	Percent of Labor Force Unemployed	Percent of Housing Units Vacant	Median Housing Values
Any Revolving Loan Fund Loans					
No Redevelopment	\$31,681	21.1%	9.2%	12.6%	\$114,330
Redevelopment Started or Complete	\$30,105	21.0%	7.8%	9.1%	\$95,379
Any Revolving Loan Fund Subgrants					
No Redevelopment	\$31,601	20.2%	8.7%	9.3%	\$91,019
Redevelopment Started or Complete	\$32,098	18.6%	9.6%	9.6%	\$85,289

Note: Kruskal-Wallis tests indicating statistically-significant differences at the 0.05 level are bolded. Demographic characteristics for each property are summarized at the block group level from the 2000 Census. Fifty-nine of 234 Revolving Loan Fund properties do not report their funding source.

PART II.
Program Management, Outputs, and Efficiencies of
2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants

Data and Methods

The following section describes the data sources and methods used to examine program management, outputs, and efficiencies of 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants.

Data Sources

Data sources for analysis included EPA's Assessment, Cleanup, and Redevelopment Exchange System (ACRES), an online database for Brownfields grant recipients to electronically submit property information to EPA; supplemental information on property activities from EPA Regional Offices; and Brownfields grant financial data from the Office of the Chief Financial Officer Reporting and Business Intelligence Tool (ORBIT). Data management and statistical analyses were performed using SAS® 9.2 software (SAS Institute Inc., 2008).

Methods

EPA queried the ACRES database (data accessed July 11, 2011) to identify the administrative records and property activities associated with each 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grant. In addition, EPA queried the ORBIT database (data accessed June 9, 2011) to identify the financial obligations and dollars drawn down for each grant, and then merged the relevant information from both databases prior to analysis.

For each grant, EPA calculated the dollars obligated, the dollars drawn down, and the corresponding percentage of the obligation drawn down. EPA then determined the number of property milestones produced per 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grant. Property milestones of interest included Phase I Environmental Site Assessments, Phase II Environmental Site Assessments, Supplemental Site Assessments, completed cleanups, and redevelopments.

EPA analyzed the efficiency with which 2003-2008 Brownfields assessment grants produce environmental assessments by calculating the average number of assessments completed per dollar obligated and per dollar drawn down. Similarly, EPA calculated the efficiency with which 2003-2008 Brownfields revolving loan fund and cleanup grants produce cleanups by calculating the average number of cleanups completed per dollar obligated and per dollar drawn down.

Finally, EPA determined the award status of each 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grant, the number of associated properties per grant, and the number of grants that produced GPRA accomplishments related to assessment, cleanup, or redevelopment activities.

Results

The following section summarizes the main results concerning program management, outputs, and efficiencies of 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants. The results of individual analyses are presented in tables and figures at the end of the section.

EPA awarded 860 assessment grants, 124 grants to capitalize revolving loan funds, and 459 cleanup grants over fiscal years 2003-2008. Financial obligations were obtained for 840 assessment grants totaling \$202.2 million, 106 revolving loan funds totaling \$145.5 million, and 441 cleanup grants totaling \$91.8 million. Tables 18-21 present these figures by EPA Region and award year.

For each 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grant for which financial obligations were obtained, EPA calculated the dollars drawn down and the percentage of the obligation that had been drawn down. Tables 22-23 present these figures by EPA Region and award year. The results indicate that 2003-2008 Brownfields revolving loan funds have been significantly less drawn down (54% drawn down) than 2003-2008 Brownfields assessment (87% drawn down) and cleanup grants (86% drawn down).

EPA calculated the number of property milestones associated with each 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grant. Tables 24-25 present the figures for 2003-2008 Brownfields assessment grants by EPA Region and award year. On average, each Brownfield assessment grant was associated with 7.6 Phase I Environmental Site Assessments, 2.6 Phase II Environmental Site Assessments, 0.67 Supplemental Environmental Site Assessments, 0.14 completed cleanups, and 1.3 redevelopments. Tables 26-27 present the figures for 2003-2008 Brownfields revolving loan funds by EPA Region and award year. On average, each Brownfield revolving loan fund was associated with 0.27 Phase I Environmental Site Assessments, 0.23 Phase II Environmental Site Assessments, 0.24 Supplemental Environmental Site Assessments, 0.98 completed cleanups, and 0.70 redevelopments. Tables 28-29 present the figures for 2003-2008 Brownfields cleanup grants by EPA Region and award year. On average, each Brownfield cleanup grant was associated with 0.22 Phase I Environmental Site Assessments, 0.23 Phase II Environmental Site Assessments, 0.15 Supplemental Environmental Site Assessments, 0.61 completed cleanups, and 0.44 redevelopments.

EPA combined these outputs with financial obligations and dollars drawn down to examine the efficiency with which 2003-2008 Brownfields assessment grants produced environmental assessments. Tables 30-31 present the number of assessments completed per dollar obligated to 2003-2008 Brownfields assessments grants by EPA Region and award year. Tables 32-33 present analogous figures per dollar drawn down. On average, assessment grants produced a completed assessment for every \$21,683 obligated and for every \$18,605 drawn down.

EPA compared the efficiency with which 2003-2008 Brownfields revolving loan fund and cleanup grants produced cleanups. Tables 34-35 present the number of cleanups completed per dollar obligated to 2003-2008 Brownfields revolving loan fund and cleanup grants by EPA Region and award year. Tables 36-37 present analogous figures per dollar drawn down. Under both measures, cleanup grants were

substantially more efficient than revolving loan funds at producing cleanups. On average, revolving loan funds produced a completed cleanup for every \$1,222,939 obligated and for every \$615,155 drawn down, while cleanup grants produced a completed cleanup for every \$332,709 obligated and for every \$284,176 drawn down. The ratios of these figures imply that cleanup grants were 3.7 times more efficient in terms of dollars obligated and 2.2 times more efficient in terms of dollars drawn down. These ratios should be interpreted with caution in the absence of further information about the total cost and complexity of cleanups at revolving loan fund vs. cleanup grant properties.

EPA examined several additional indicators of program management, including the award status of each 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grant, the number of associated properties per grant, and the number of grants that produced GPRA accomplishments related to assessment, cleanup, or redevelopment activities. Tables 38-39 report the number and percentage of 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants with an open vs. closed award status by EPA Region and award year. A total of 422 of 860 assessment grants (49%), 24 of 124 revolving loan funds (19%), and 248 of 459 cleanup grants (54%) had closed awards.

Tables 40-41 show the number of associated properties entered in the ACRES database per 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grant by EPA Region and award year. On average, assessment grants were associated with 9.33 properties, revolving loan funds were associated with 1.93 properties, and cleanup grants were associated with 0.98 properties. Tables 42-43 show the number of these grants with no associated properties entered in the ACRES database. A total of 141 of 860 assessment grants (16%), 54 of 124 revolving loan funds (44%), and 73 of 459 cleanup grants (16%) had no associated properties entered in the ACRES database.

Finally, Tables 44-45 report the number and percentage of 2003-2008 Brownfields assessment, revolving loan fund, and cleanup grants that produced GPRA accomplishments by EPA Region and award year. A total of 651 of 860 assessment grants (76%), 54 of 124 revolving loan funds (44%), and 267 of 459 cleanup grants (58%) produced GPRA accomplishments related to assessment, cleanup, or redevelopment activities.

Table 18. 2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants by EPA Region

EPA Region	Assessment Grants		Revolving Loan Funds		Cleanup Grants		All Grants	
	Number of Grants	Percent of Total	Number of Grants	Percent of Total	Number of Grants	Percent of Total	Number of Grants	Percent of Total
Region A	216	25.1%	29	23.3%	86	18.7%	331	22.9%
Region B	85	9.8%	16	12.9%	51	11.1%	152	10.5%
Region C	135	15.6%	32	25.8%	126	27.4%	293	20.3%
Region D	63	7.3%	7	5.6%	25	5.4%	95	6.5%
Region E	49	5.6%	7	5.6%	29	6.3%	85	5.8%
Region F	73	8.4%	12	9.6%	24	5.2%	109	7.5%
Region G	104	12.0%	8	6.4%	33	7.1%	145	10.0%
Region H	44	5.1%	4	3.2%	38	8.2%	86	5.9%
Region I	19	2.2%	3	2.4%	24	5.2%	46	3.1%
Region J	72	8.3%	6	4.8%	23	5.0%	101	6.9%
Total	860	100.0%	124	100.0%	459	100.0%	1443	100.0%

Table 19. 2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants by Award Year

Award Year	Assessment Grants		Revolving Loan Funds		Cleanup Grants		All Grants	
	Number of Grants	Percent of Total	Number of Grants	Percent of Total	Number of Grants	Percent of Total	Number of Grants	Percent of Total
2003	117	13.6%	36	29.0%	54	11.7%	207	14.3%
2004	154	17.9%	28	22.5%	68	14.8%	250	17.3%
2005	146	16.9%	15	12.0%	84	18.3%	245	16.9%
2006	147	17.0%	18	14.5%	81	17.6%	246	17.0%
2007	147	17.0%	17	13.7%	84	18.3%	248	17.1%
2008	149	17.3%	10	8.0%	88	19.1%	247	17.1%
Total	860	100.0%	124	100.0%	459	100.0%	1443	100.0%

Table 20. 2003-2008 Brownfields ARC Grants and Dollars Obligated by EPA Region

EPA Region	Assessment Grants			Revolving Loan Funds			Cleanup Grants		
	Number of Grants	Dollars Obligated	Dollars Obligated per Grant	Number of Grants	Dollars Obligated	Dollars Obligated per RLF	Number of Grants	Dollars Obligated	Dollars Obligated per Grant
Region A	210	\$60,478,583	\$287,993	23	\$41,318,138	\$1,796,441	81	\$20,161,387	\$248,906
Region B	83	\$20,911,283	\$251,943	15	\$16,116,010	\$1,074,401	48	\$10,782,931	\$224,644
Region C	134	\$31,973,095	\$238,605	27	\$34,182,636	\$1,266,024	124	\$24,393,582	\$196,722
Region D	63	\$13,204,695	\$209,598	6	\$7,797,783	\$1,299,631	24	\$4,359,380	\$181,641
Region E	49	\$9,859,391	\$201,212	6	\$9,333,522	\$1,555,587	28	\$4,359,930	\$155,712
Region F	71	\$14,940,426	\$210,429	11	\$7,974,484	\$724,953	23	\$4,170,247	\$181,315
Region G	103	\$24,925,597	\$241,996	8	\$11,312,546	\$1,414,068	31	\$7,258,666	\$234,151
Region H	42	\$8,191,762	\$195,042	4	\$12,116,114	\$3,029,028	37	\$6,756,038	\$182,596
Region I	15	\$3,439,998	\$229,333	2	\$2,378,500	\$1,189,250	23	\$4,455,267	\$193,707
Region J	70	\$14,272,313	\$203,890	4	\$3,000,000	\$750,000	22	\$5,130,289	\$233,195
Total	840	\$202,197,142	\$240,711	106	\$145,529,733	\$1,372,922	441	\$91,827,716	\$208,226

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 21. 2003-2008 Brownfields ARC Grants and Dollars Obligated by Award Year

Award Year	Assessment Grants			Revolving Loan Funds			Cleanup Grants		
	Number of Grants	Dollars Obligated	Dollars Obligated per Grant	Number of Grants	Dollars Obligated	Dollars Obligated per RLF	Number of Grants	Dollars Obligated	Dollars Obligated per Grant
2003	114	\$30,443,856	\$267,051	28	\$34,221,533	\$1,222,198	50	\$10,943,099	\$218,862
2004	149	\$34,118,130	\$228,981	24	\$33,648,635	\$1,402,026	65	\$13,864,284	\$213,297
2005	141	\$31,216,751	\$221,395	12	\$18,391,732	\$1,532,644	78	\$14,299,066	\$183,321
2006	143	\$32,991,174	\$230,708	18	\$22,257,163	\$1,236,509	78	\$16,212,835	\$207,857
2007	146	\$34,292,028	\$234,877	15	\$25,126,800	\$1,675,120	83	\$17,952,524	\$216,295
2008	147	\$39,135,203	\$266,226	9	\$11,883,870	\$1,320,430	87	\$18,555,909	\$213,286
Total	840	\$202,197,142	\$240,711	106	\$145,529,733	\$1,372,922	441	\$91,827,716	\$208,226

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 22. 2003-2008 Brownfields ARC Grants and Dollars Drawn Down by EPA Region

EPA Region	Assessment Grants				Revolving Loan Funds			
	Number of Grants	Dollars Drawn Down	Dollars Drawn Down per Grant	Average Percent Drawn Down per Grant	Number of Grants	Dollars Drawn Down	Dollars Drawn Down per RLF	Average Percent Drawn Down per Grant
Region A	210	\$53,632,732	\$255,394	88.5%	23	\$21,211,387	\$922,234	62.6%
Region B	83	\$16,071,101	\$193,628	82.2%	15	\$7,775,200	\$518,347	50.3%
Region C	134	\$27,848,170	\$207,822	89.3%	27	\$16,643,731	\$616,435	48.9%
Region D	63	\$11,560,254	\$183,496	87.3%	6	\$4,828,844	\$804,807	61.9%
Region F	71	\$13,241,052	\$186,494	88.0%	11	\$3,528,224	\$320,748	56.8%
Region E	49	\$8,902,272	\$181,679	90.2%	6	\$4,370,249	\$728,375	65.8%
Region G	103	\$22,440,457	\$217,869	91.2%	8	\$6,419,595	\$802,449	38.8%
Region H	42	\$7,843,084	\$186,740	95.8%	4	\$6,292,727	\$1,573,182	59.4%
Region I	15	\$2,924,345	\$194,956	89.5%	2	\$970,975	\$485,487	62.4%
Region J	70	\$9,028,910	\$128,984	63.6%	4	\$1,162,562	\$290,640	29.0%
Total	840	\$173,492,376	\$206,539	86.6%	106	\$73,203,496	\$690,599	53.7%

EPA Region	Cleanup Grants			
	Number of Grants	Dollars Drawn Down	Dollars Drawn Down per Grant	Average Percent Drawn Down per Grant
Region A	81	\$17,065,802	\$210,689	83.5%
Region B	48	\$9,102,546	\$189,636	85.4%
Region C	124	\$20,267,243	\$163,446	83.6%
Region D	24	\$3,508,488	\$146,187	80.6%
Region E	28	\$3,916,157	\$139,863	90.8%
Region F	23	\$3,884,047	\$168,872	93.7%
Region G	31	\$6,335,902	\$204,384	92.1%
Region H	37	\$6,471,781	\$174,913	96.0%
Region I	23	\$4,397,920	\$191,214	98.7%
Region J	22	\$3,482,770	\$158,308	68.5%
Total	441	\$78,432,657	\$177,852	86.3%

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 23. 2003-2008 Brownfields ARC Grants and Dollars Drawn Down by Award Year

Award Year	Assessment Grants				Revolving Loan Funds			
	Number of Grants	Dollars Drawn Down	Dollars Drawn Down per Grant	Average Percent Drawn Down per Grant	Number of Grants	Dollars Drawn Down	Dollars Drawn Down per RLF	Average Percent Drawn Down per Grant
2003	114	\$30,368,373	\$266,389	99.9%	28	\$23,972,764	\$856,170	77.7%
2004	149	\$32,784,303	\$220,029	97.3%	24	\$17,330,720	\$722,113	63.7%
2005	141	\$29,939,858	\$212,339	96.6%	12	\$9,019,369	\$751,614	44.6%
2006	143	\$29,094,669	\$203,459	89.2%	18	\$12,442,340	\$691,241	45.7%
2007	146	\$28,145,344	\$192,776	81.3%	15	\$7,043,201	\$469,547	28.0%
2008	147	\$23,159,828	\$157,550	58.7%	9	\$3,395,102	\$377,234	24.2%
Total	840	\$173,492,376	\$206,539	86.6%	106	\$73,203,496	\$690,599	53.7%

Award Year	Cleanup Grants			
	Number of Grants	Dollars Drawn Down	Dollars Drawn Down per Grant	Average Percent Drawn Down per Grant
2003	50	\$10,540,170	\$210,803	98.5%
2004	65	\$13,607,145	\$209,341	98.0%
2005	78	\$13,942,369	\$178,748	97.7%
2006	78	\$14,157,534	\$181,507	88.3%
2007	83	\$13,815,776	\$166,455	75.9%
2008	87	\$12,369,663	\$142,180	68.3%
Total	441	\$78,432,657	\$177,852	86.3%

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 24. Property Milestones per 2003-2008 Brownfields Assessment Grant by EPA Region

EPA Region	Number of Grants	Phase I Assessments Complete		Phase II Assessments Complete		Supplemental Assessments Complete		Cleanups Complete		Redevelopments Started or Complete	
		Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant
Region A	216	1987	9.20	924	4.28	285	1.32	52	0.24	397	1.84
Region B	85	1051	12.36	163	1.92	63	0.74	0	0.00	65	0.76
Region C	135	602	4.46	242	1.79	105	0.78	24	0.18	160	1.19
Region D	63	500	7.94	232	3.68	17	0.27	7	0.11	148	2.35
Region E	49	343	7.00	124	2.53	26	0.53	12	0.24	64	1.31
Region F	73	409	5.60	150	2.05	16	0.22	14	0.19	104	1.42
Region G	104	1002	9.63	186	1.79	28	0.27	5	0.05	99	0.95
Region H	44	136	3.09	86	1.95	8	0.18	4	0.09	7	0.16
Region I	19	356	18.74	54	2.84	5	0.26	2	0.11	13	0.68
Region J	72	172	2.39	59	0.82	22	0.31	2	0.03	27	0.38
Total	860	6558	7.63	2220	2.58	575	0.67	122	0.14	1084	1.26

Table 25. Property Milestones per 2003-2008 Brownfields Assessment Grant by Award Year

Award Year	Number of Grants	Phase I Assessments Complete		Phase II Assessments Complete		Supplemental Assessments Complete		Cleanups Complete		Redevelopments Started or Complete	
		Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant
2003	117	1232	10.53	449	3.84	99	0.85	28	0.24	112	0.96
2004	154	1669	10.84	446	2.90	102	0.66	34	0.22	172	1.12
2005	146	1280	8.77	404	2.77	67	0.46	15	0.10	153	1.05
2006	147	1073	7.30	408	2.78	119	0.81	22	0.15	213	1.45
2007	147	815	5.54	313	2.13	123	0.84	16	0.11	247	1.68
2008	149	489	3.28	200	1.34	65	0.44	7	0.05	187	1.26
Total	860	6558	7.63	2220	2.58	575	0.67	122	0.14	1084	1.26

Table 26. Property Milestones per 2003-2008 Brownfields Revolving Loan Fund by EPA Region

EPA Region	Number of Grants	Phase I Assessments Complete		Phase II Assessments Complete		Supplemental Assessments Complete		Cleanups Complete		Redevelopments Started or Complete	
		Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant
Region A	29	8	0.28	6	0.21	5	0.17	46	1.59	27	0.93
Region B	16	8	0.50	4	0.25	5	0.31	11	0.69	4	0.25
Region C	32	5	0.16	4	0.13	4	0.13	37	1.16	31	0.97
Region D	7	4	0.57	4	0.57	1	0.14	4	0.57	8	1.14
Region E	7	0	0.00	0	0.00	0	0.00	4	0.57	3	0.43
Region F	12	2	0.17	1	0.08	1	0.08	7	0.58	5	0.42
Region G	8	4	0.50	2	0.25	8	1.00	3	0.38	2	0.25
Region H	4	2	0.50	6	1.50	4	1.00	5	1.25	4	1.00
Region I	3	0	0.00	2	0.67	2	0.67	4	1.33	2	0.67
Region J	6	0	0.00	0	0.00	0	0.00	0	0.00	1	0.17
Total	124	33	0.27	29	0.23	30	0.24	121	0.98	87	0.70

Table 27. Property Milestones per 2003-2008 Brownfields Revolving Loan Fund by Award Year

Award Year	Number of Grants	Phase I Assessments Complete		Phase II Assessments Complete		Supplemental Assessments Complete		Cleanups Complete		Redevelopments Started or Complete	
		Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant
2003	36	19	0.53	19	0.53	17	0.47	42	1.17	35	0.97
2004	28	8	0.29	7	0.25	4	0.14	40	1.43	28	1.00
2005	15	3	0.20	2	0.13	7	0.47	9	0.60	8	0.53
2006	18	0	0.00	0	0.00	0	0.00	11	0.61	2	0.11
2007	17	2	0.12	1	0.06	1	0.06	17	1.00	12	0.71
2008	10	1	0.10	0	0.00	1	0.10	2	0.20	2	0.20
Total	124	33	0.27	29	0.23	30	0.24	121	0.98	87	0.70

Table 28. Property Milestones per 2003-2008 Brownfields Cleanup Grant by EPA Region

EPA Region	Number of Grants	Phase I Assessments Complete		Phase II Assessments Complete		Supplemental Assessments Complete		Cleanups Complete		Redevelopments Started or Complete	
		Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant
Region A	86	20	0.23	25	0.29	17	0.20	69	0.80	41	0.48
Region B	51	17	0.33	21	0.41	13	0.25	32	0.63	21	0.41
Region C	126	26	0.21	18	0.14	18	0.14	60	0.48	63	0.50
Region D	25	5	0.20	3	0.12	1	0.04	9	0.36	6	0.24
Region E	29	6	0.21	7	0.24	0	0.00	22	0.76	15	0.52
Region F	24	0	0.00	1	0.04	2	0.08	20	0.83	12	0.50
Region G	33	4	0.12	4	0.12	4	0.12	13	0.39	12	0.36
Region H	38	12	0.32	12	0.32	8	0.21	30	0.79	21	0.55
Region I	24	3	0.13	6	0.25	3	0.13	15	0.63	8	0.33
Region J	23	10	0.43	10	0.43	4	0.17	8	0.35	4	0.17
Total	459	103	0.22	107	0.23	70	0.15	278	0.61	203	0.44

Table 29. Property Milestones per 2003-2008 Brownfields Cleanup Grant by Award Year

Award Year	Number of Grants	Phase I Assessments Complete		Phase II Assessments Complete		Supplemental Assessments Complete		Cleanups Complete		Redevelopments Started or Complete	
		Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant	Number	Number per Grant
2003	54	28	0.52	27	0.50	21	0.39	52	0.96	34	0.63
2004	68	29	0.43	27	0.40	23	0.34	60	0.88	44	0.65
2005	84	24	0.29	27	0.32	12	0.14	59	0.70	36	0.43
2006	81	10	0.12	15	0.19	6	0.07	43	0.53	32	0.40
2007	84	9	0.11	9	0.11	2	0.02	31	0.37	24	0.29
2008	88	3	0.03	2	0.02	6	0.07	33	0.38	33	0.38
Total	459	103	0.22	107	0.23	70	0.15	278	0.61	203	0.44

Table 30. 2003-2008 Assessment Grant Dollars Obligated per Assessment Complete by EPA Region

EPA Region	Number of Grants	Number of Assessments Complete				Number of Assessments Complete per Grant				Dollars Obligated	Dollars Obligated per Assessment Complete
		Phase I	Phase II	Supplemental	Total	Phase I	Phase II	Supplemental	Total		
Region A	210	1979	918	284	3181	9.42	4.37	1.35	15.15	\$60,478,583	\$19,012
Region B	83	1051	163	63	1277	12.66	1.96	0.76	15.39	\$20,911,283	\$16,375
Region C	134	596	242	105	943	4.45	1.81	0.78	7.04	\$31,973,095	\$33,906
Region D	63	500	232	17	749	7.94	3.68	0.27	11.89	\$13,204,695	\$17,630
Region E	49	343	124	26	493	7.00	2.53	0.53	10.06	\$9,859,391	\$19,999
Region F	71	409	150	16	575	5.76	2.11	0.23	8.10	\$14,940,426	\$25,983
Region G	103	1002	186	28	1216	9.73	1.81	0.27	11.81	\$24,925,597	\$20,498
Region H	42	136	86	8	230	3.24	2.05	0.19	5.48	\$8,191,762	\$35,616
Region I	15	353	50	5	408	23.53	3.33	0.33	27.20	\$3,439,998	\$8,431
Region J	70	172	59	22	253	2.46	0.84	0.31	3.61	\$14,272,313	\$56,412
Total	840	6541	2210	574	9325	7.79	2.63	0.68	11.10	\$202,197,142	\$21,683

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 31. 2003-2008 Assessment Grant Dollars Obligated per Assessment Complete by Award Year

Award Year	Number of Grants	Number of Assessments Complete				Number of Assessments Complete per Grant				Dollars Obligated	Dollars Obligated per Assessment Complete
		Phase I	Phase II	Supplemental	Total	Phase I	Phase II	Supplemental	Total		
2003	114	1229	445	99	1773	10.78	3.90	0.87	15.55	\$30,443,856	\$17,171
2004	149	1669	446	102	2217	11.20	2.99	0.68	14.88	\$34,118,130	\$15,389
2005	141	1279	402	67	1748	9.07	2.85	0.48	12.40	\$31,216,751	\$17,859
2006	143	1066	404	118	1588	7.45	2.83	0.83	11.10	\$32,991,174	\$20,775
2007	146	815	313	123	1251	5.58	2.14	0.84	8.57	\$34,292,028	\$27,412
2008	147	483	200	65	748	3.29	1.36	0.44	5.09	\$39,135,203	\$52,320
Total	840	6541	2210	574	9325	7.79	2.63	0.68	11.10	\$202,197,142	\$21,683

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 32. 2003-2008 Assessment Grant Dollars Drawn Down per Assessment Complete by EPA Region

EPA Region	Number of Grants	Number of Assessments Complete				Number of Assessments Complete per Grant				Dollars Drawn Down	Dollars Drawn Down per Assessment Complete
		Phase I	Phase II	Supplemental	Total	Phase I	Phase II	Supplemental	Total		
Region A	210	1979	918	284	3181	9.42	4.37	1.35	15.15	\$53,632,732	\$16,860
Region B	83	1051	163	63	1277	12.66	1.96	0.76	15.39	\$16,071,101	\$12,585
Region C	134	596	242	105	943	4.45	1.81	0.78	7.04	\$27,848,170	\$29,531
Region D	63	500	232	17	749	7.94	3.68	0.27	11.89	\$11,560,254	\$15,434
Region E	49	343	124	26	493	7.00	2.53	0.53	10.06	\$8,902,272	\$18,057
Region F	71	409	150	16	575	5.76	2.11	0.23	8.10	\$13,241,052	\$23,028
Region G	103	1002	186	28	1216	9.73	1.81	0.27	11.81	\$22,440,457	\$18,454
Region H	42	136	86	8	230	3.24	2.05	0.19	5.48	\$7,843,084	\$34,100
Region I	15	353	50	5	408	23.53	3.33	0.33	27.20	\$2,924,345	\$7,168
Region J	70	172	59	22	253	2.46	0.84	0.31	3.61	\$9,028,910	\$35,687
Total	840	6541	2210	574	9325	7.79	2.63	0.68	11.10	\$173,492,376	\$18,605

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 33. 2003-2008 Assessment Grant Dollars Drawn Down per Assessment Complete by Award Year

Award Year	Number of Grants	Number of Assessments Complete				Number of Assessments Complete per Grant				Dollars Drawn Down	Dollars Drawn Down per Assessment Complete
		Phase I	Phase II	Supplemental	Total	Phase I	Phase II	Supplemental	Total		
2003	114	1229	445	99	1773	10.78	3.90	0.87	15.55	\$30,368,373	\$17,128
2004	149	1669	446	102	2217	11.20	2.99	0.68	14.88	\$32,784,303	\$14,788
2005	141	1279	402	67	1748	9.07	2.85	0.48	12.40	\$29,939,858	\$17,128
2006	143	1066	404	118	1588	7.45	2.83	0.83	11.10	\$29,094,669	\$18,322
2007	146	815	313	123	1251	5.58	2.14	0.84	8.57	\$28,145,344	\$22,498
2008	147	483	200	65	748	3.29	1.36	0.44	5.09	\$23,159,828	\$30,962
Total	840	6541	2210	574	9325	7.79	2.63	0.68	11.10	\$173,492,376	\$18,605

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 34. 2003-2008 Revolving Loan Fund and Cleanup Grant Dollars Obligated per Cleanup Complete by EPA Region

EPA Region	Revolving Loan Funds			Cleanup Grants		
	Cleanups Complete	Dollars Obligated	Dollars Obligated per Cleanup Complete	Cleanups Complete	Dollars Obligated	Dollars Obligated per Cleanup Complete
Region A	45	\$41,318,138	\$918,181	67	\$20,161,387	\$300,916
Region B	11	\$16,116,010	\$1,465,092	32	\$10,782,931	\$336,967
Region C	36	\$34,182,636	\$949,518	60	\$24,393,582	\$406,560
Region D	4	\$7,797,783	\$1,949,446	9	\$4,359,380	\$484,376
Region E	4	\$9,333,522	\$2,333,381	22	\$4,359,930	\$198,179
Region F	7	\$7,974,484	\$1,139,212	20	\$4,170,247	\$208,512
Region G	3	\$11,312,546	\$3,770,849	13	\$7,258,666	\$558,359
Region H	5	\$12,116,114	\$2,423,223	30	\$6,756,038	\$225,201
Region I	4	\$2,378,500	\$594,625	15	\$4,455,267	\$297,018
Region J	0	\$3,000,000	--	8	\$5,130,289	\$641,286
Total	119	\$145,529,733	\$1,222,939	276	\$91,827,716	\$332,709

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 35. 2003-2008 Revolving Loan Fund and Cleanup Grant Dollars Obligated per Cleanup Complete by Award Year

Award Year	Revolving Loan Funds			Cleanup Grants		
	Cleanups Complete	Dollars Obligated	Dollars Obligated per Cleanup Complete	Cleanups Complete	Dollars Obligated	Dollars Obligated per Cleanup Complete
2003	41	\$34,221,533	\$834,672	52	\$10,943,099	\$210,444
2004	40	\$33,648,635	\$841,216	60	\$13,864,284	\$231,071
2005	9	\$18,391,732	\$2,043,526	59	\$14,299,066	\$242,357
2006	11	\$22,257,163	\$2,023,378	41	\$16,212,835	\$395,435
2007	16	\$25,126,800	\$1,570,425	31	\$17,952,524	\$579,114
2008	2	\$11,883,870	\$5,941,935	33	\$18,555,909	\$562,300
Total	119	\$145,529,733	\$1,222,939	276	\$91,827,716	\$332,709

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 36. 2003-2008 Revolving Loan Fund and Cleanup Grant Dollars Drawn Down per Cleanup Complete by EPA Region

EPA Region	Revolving Loan Funds			Cleanup Grants		
	Cleanups Complete	Dollars Drawn Down	Dollars Drawn Down per Cleanup Complete	Cleanups Complete	Dollars Drawn Down	Dollars Drawn Down per Cleanup Complete
Region A	45	\$21,211,387	\$471,364	67	\$17,065,802	\$254,713
Region B	11	\$7,775,200	\$706,836	32	\$9,102,546	\$284,455
Region C	36	\$16,643,731	\$462,326	60	\$20,267,243	\$337,787
Region D	4	\$4,828,844	\$1,207,211	9	\$3,508,488	\$389,832
Region E	4	\$4,370,249	\$1,092,562	22	\$3,916,157	\$178,007
Region F	7	\$3,528,224	\$504,032	20	\$3,884,047	\$194,202
Region G	3	\$6,419,595	\$2,139,865	13	\$6,335,902	\$487,377
Region H	5	\$6,292,727	\$1,258,546	30	\$6,471,781	\$215,726
Region I	4	\$970,975	\$242,744	15	\$4,397,920	\$293,195
Region J	0	\$1,162,562	--	8	\$3,482,770	\$435,346
Total	119	\$73,203,496	\$615,155	276	\$78,432,657	\$284,176

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 37. 2003-2008 Revolving Loan Fund and Cleanup Grant Dollars Drawn Down per Cleanup Complete by Award Year

Award Year	Revolving Loan Funds			Cleanup Grants		
	Cleanups Complete	Dollars Drawn Down	Dollars Drawn Down per Cleanup Complete	Cleanups Complete	Dollars Drawn Down	Dollars Drawn Down per Cleanup Complete
2003	41	\$23,972,764	\$584,702	52	\$10,540,170	\$202,696
2004	40	\$17,330,720	\$433,268	60	\$13,607,145	\$226,786
2005	9	\$9,019,369	\$1,002,152	59	\$13,942,369	\$236,311
2006	11	\$12,442,340	\$1,131,122	41	\$14,157,534	\$345,306
2007	16	\$7,043,201	\$440,200	31	\$13,815,776	\$445,670
2008	2	\$3,395,102	\$1,697,551	33	\$12,369,663	\$374,838
Total	119	\$73,203,496	\$615,155	276	\$78,432,657	\$284,176

Note: Table is limited to grants with nonzero obligations as of June 9, 2011.

Table 38. 2003-2008 Brownfields ARC Grants by Open vs. Closed Award Status and EPA Region

EPA Region	Assessment Grants					Revolving Loan Funds					Cleanup Grants				
	Number of Grants	Open Awards		Closed Awards		Number of Grants	Open Awards		Closed Awards		Number of Grants	Open Awards		Closed Awards	
		Number of Grants	Percent of Region	Number of Grants	Percent of Region		Number of Grants	Percent of Region	Number of Grants	Percent of Region		Number of Grants	Percent of Region	Number of Grants	Percent of Region
Region A	216	122	56.4%	94	43.5%	29	24	82.7%	5	17.2%	86	45	52.3%	41	47.6%
Region B	85	38	44.7%	47	55.2%	16	13	81.2%	3	18.7%	51	22	43.1%	29	56.8%
Region C	135	65	48.1%	70	51.8%	32	24	75.0%	8	25.0%	126	69	54.7%	57	45.2%
Region D	63	26	41.2%	37	58.7%	7	6	85.7%	1	14.2%	25	14	56.0%	11	44.0%
Region E	49	21	42.8%	28	57.1%	7	6	85.7%	1	14.2%	29	6	20.6%	23	79.3%
Region F	73	46	63.0%	27	36.9%	12	9	75.0%	3	25.0%	24	9	37.5%	15	62.5%
Region G	104	52	50.0%	52	50.0%	8	8	100.0%	0	0.0%	33	16	48.4%	17	51.5%
Region H	44	8	18.1%	36	81.8%	4	3	75.0%	1	25.0%	38	4	10.5%	34	89.4%
Region I	19	5	26.3%	14	73.6%	3	2	66.6%	1	33.3%	24	10	41.6%	14	58.3%
Region J	72	55	76.3%	17	23.6%	6	5	83.3%	1	16.6%	23	16	69.5%	7	30.4%
Total	860	438	50.9%	422	49.0%	124	100	80.6%	24	19.3%	459	211	45.9%	248	54.0%

Table 39. 2003-2008 Brownfields ARC Grants by Open vs. Closed Award Status and Award Year

Award Year	Assessment Grants					Revolving Loan Funds					Cleanup Grants				
	Number of Grants	Open Awards		Closed Awards		Number of Grants	Open Awards		Closed Awards		Number of Grants	Open Awards		Closed Awards	
		Number of Grants	Percent of Year	Number of Grants	Percent of Year		Number of Grants	Percent of Year	Number of Grants	Percent of Year		Number of Grants	Percent of Year	Number of Grants	Percent of Year
2003	117	11	9.4%	106	90.5%	36	23	63.8%	13	36.1%	54	8	14.8%	46	85.1%
2004	154	17	11.0%	137	88.9%	28	20	71.4%	8	28.5%	68	10	14.7%	58	85.2%
2005	146	30	20.5%	116	79.4%	15	12	80.0%	3	20.0%	84	10	11.9%	74	88.0%
2006	147	90	61.2%	57	38.7%	18	18	100.0%	0	0.0%	81	37	45.6%	44	54.3%
2007	147	142	96.5%	5	3.4%	17	17	100.0%	0	0.0%	84	69	82.1%	15	17.8%
2008	149	148	99.3%	1	0.6%	10	10	100.0%	0	0.0%	88	77	87.5%	11	12.5%
Total	860	438	50.9%	422	49.0%	124	100	80.6%	24	19.3%	459	211	45.9%	248	54.0%

Table 40. Number of Associated Properties per 2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grant by EPA Region

EPA Region	Assessment Grants		Revolving Loan Funds		Cleanup Grants	
	Number of Grants	Associated Properties per Grant	Number of Grants	Associated Properties per Grant	Number of Grants	Associated Properties per Grant
Region A	216	10.79	29	2.14	86	1.05
Region B	85	14.07	16	0.88	51	0.82
Region C	135	6.58	32	2.34	126	1.08
Region D	63	9.40	7	6.14	25	0.64
Region E	49	9.76	7	0.71	29	0.90
Region F	73	7.18	12	0.67	24	1.04
Region G	104	10.89	8	1.63	33	0.97
Region H	44	5.61	4	3.00	38	1.08
Region I	19	19.16	3	1.67	24	0.83
Region J	72	3.78	6	0.33	23	1.00
Total	860	9.33	124	1.93	459	0.98

Table 41. Number of Associated Properties per 2003-2008 Brownfields Assessment, Revolving Loan Fund, and Cleanup Grant by Award Year

Award Year	Assessment Grants		Revolving Loan Funds		Cleanup Grants	
	Number of Grants	Associated Properties per Grant	Number of Grants	Associated Properties per Grant	Number of Grants	Associated Properties per Grant
2003	117	13.17	36	1.94	54	1.28
2004	154	12.89	28	3.07	68	1.19
2005	146	10.10	15	1.40	84	0.90
2006	147	8.84	18	0.94	81	0.83
2007	147	7.11	17	2.06	84	1.02
2008	149	4.56	10	1.00	88	0.82
Total	860	9.33	124	1.93	459	0.98

Table 42. 2003-2008 Brownfields ARC Grants by Associated Properties Status and EPA Region

EPA Region	Assessment Grants					Revolving Loan Funds					Cleanup Grants				
	Number of Grants	Associated with Properties		Not Associated with Properties		Number of Grants	Associated with Properties		Not Associated with Properties		Number of Grants	Associated with Properties		Not Associated with Properties	
		Number of Grants	Percent of Region	Number of Grants	Percent of Region		Number of Grants	Percent of Region	Number of Grants	Percent of Region		Number of Grants	Percent of Region	Number of Grants	Percent of Region
Region A	216	175	81.0%	41	18.9%	29	17	58.6%	12	41.3%	86	67	77.9%	19	22.0%
Region B	85	67	78.8%	18	21.1%	16	6	37.5%	10	62.5%	51	34	66.6%	17	33.3%
Region C	135	125	92.5%	10	7.4%	32	23	71.8%	9	28.1%	126	119	94.4%	7	5.5%
Region D	63	52	82.5%	11	17.4%	7	5	71.4%	2	28.5%	25	16	64.0%	9	36.0%
Region E	49	44	89.7%	5	10.2%	7	4	57.1%	3	42.8%	29	26	89.6%	3	10.3%
Region F	73	60	82.1%	13	17.8%	12	3	25.0%	9	75.0%	24	23	95.8%	1	4.1%
Region G	104	94	90.3%	10	9.6%	8	6	75.0%	2	25.0%	33	27	81.8%	6	18.1%
Region H	44	37	84.0%	7	15.9%	4	3	75.0%	1	25.0%	38	35	92.1%	3	7.8%
Region I	19	18	94.7%	1	5.2%	3	2	66.6%	1	33.3%	24	20	83.3%	4	16.6%
Region J	72	47	65.2%	25	34.7%	6	1	16.6%	5	83.3%	23	19	82.6%	4	17.3%
Total	860	719	83.6%	141	16.3%	124	70	56.4%	54	43.5%	459	386	84.0%	73	15.9%

Table 43. 2003-2008 Brownfields ARC Grants by Associated Properties Status and Award Year

Award Year	Assessment Grants					Revolving Loan Funds					Cleanup Grants				
	Number of Grants	Associated with Properties		Not Associated with Properties		Number of Grants	Associated with Properties		Not Associated with Properties		Number of Grants	Associated with Properties		Not Associated with Properties	
		Number of Grants	Percent of Year	Number of Grants	Percent of Year		Number of Grants	Percent of Year	Number of Grants	Percent of Year		Number of Grants	Percent of Year	Number of Grants	Percent of Year
2003	117	107	91.4%	10	8.5%	36	24	66.6%	12	33.3%	54	50	92.5%	4	7.4%
2004	154	145	94.1%	9	5.8%	28	15	53.5%	13	46.4%	68	64	94.1%	4	5.8%
2005	146	123	84.2%	23	15.7%	15	8	53.3%	7	46.6%	84	72	85.7%	12	14.2%
2006	147	124	84.3%	23	15.6%	18	9	50.0%	9	50.0%	81	63	77.7%	18	22.2%
2007	147	117	79.5%	30	20.4%	17	9	52.9%	8	47.0%	84	73	86.9%	11	13.0%
2008	149	103	69.1%	46	30.8%	10	5	50.0%	5	50.0%	88	64	72.7%	24	27.2%
Total	860	719	83.6%	141	16.3%	124	70	56.4%	54	43.5%	459	386	84.0%	73	15.9%

Table 44. 2003-2008 Brownfields ARC Grants by GPRA Accomplishment Status and EPA Region

EPA Region	Assessment Grants					Revolving Loan Funds					Cleanup Grants				
	Number of Grants	Associated with GPRA Accomplishments		Not Associated with GPRA Accomplishments		Number of Grants	Associated with GPRA Accomplishments		Not Associated with GPRA Accomplishments		Number of Grants	Associated with GPRA Accomplishments		Not Associated with GPRA Accomplishments	
		Number of Grants	Percent of Region	Number of Grants	Percent of Region		Number of Grants	Percent of Region	Number of Grants	Percent of Region		Number of Grants	Percent of Region	Number of Grants	Percent of Region
Region A	216	169	78.2%	47	21.7%	29	13	44.8%	16	55.1%	86	51	59.3%	35	40.6%
Region B	85	51	60.0%	34	40.0%	16	5	31.2%	11	68.7%	51	28	54.9%	23	45.0%
Region C	135	115	85.1%	20	14.8%	32	18	56.2%	14	43.7%	126	71	56.3%	55	43.6%
Region D	63	46	73.0%	17	26.9%	7	4	57.1%	3	42.8%	25	8	32.0%	17	68.0%
Region E	49	40	81.6%	9	18.3%	7	3	42.8%	4	57.1%	29	22	75.8%	7	24.1%
Region F	73	57	78.0%	16	21.9%	12	3	25.0%	9	75.0%	24	18	75.0%	6	25.0%
Region G	104	89	85.5%	15	14.4%	8	3	37.5%	5	62.5%	33	17	51.5%	16	48.4%
Region H	44	31	70.4%	13	29.5%	4	2	50.0%	2	50.0%	38	29	76.3%	9	23.6%
Region I	19	16	84.2%	3	15.7%	3	2	66.6%	1	33.3%	24	15	62.5%	9	37.5%
Region J	72	37	51.3%	35	48.6%	6	1	16.6%	5	83.3%	23	8	34.7%	15	65.2%
Total	860	651	75.6%	209	24.3%	124	54	43.5%	70	56.4%	459	267	58.1%	192	41.8%

Table 45. 2003-2008 Brownfields ARC Grants by GPRA Accomplishment Status and Award Year

Award Year	Assessment Grants					Revolving Loan Funds					Cleanup Grants				
	Number of Grants	Associated with GPRA Accomplishments		Not Associated with GPRA Accomplishments		Number of Grants	Associated with GPRA Accomplishments		Not Associated with GPRA Accomplishments		Number of Grants	Associated with GPRA Accomplishments		Not Associated with GPRA Accomplishments	
		Number of Grants	Percent of Year	Number of Grants	Percent of Year		Number of Grants	Percent of Year	Number of Grants	Percent of Year		Number of Grants	Percent of Year	Number of Grants	Percent of Year
2003	117	99	84.6%	18	15.3%	36	21	58.3%	15	41.6%	54	44	81.4%	10	18.5%
2004	154	125	81.1%	29	18.8%	28	13	46.4%	15	53.5%	68	52	76.4%	16	23.5%
2005	146	115	78.7%	31	21.2%	15	7	46.6%	8	53.3%	84	61	72.6%	23	27.3%
2006	147	118	80.2%	29	19.7%	18	4	22.2%	14	77.7%	81	41	50.6%	40	49.3%
2007	147	109	74.1%	38	25.8%	17	6	35.2%	11	64.7%	84	32	38.0%	52	61.9%
2008	149	85	57.0%	64	42.9%	10	3	30.0%	7	70.0%	88	37	42.0%	51	57.9%
Total	860	651	75.6%	209	24.3%	124	54	43.5%	70	56.4%	459	267	58.1%	192	41.8%

