EXECUTIVE SUMMARY

Purpose

Usable land is a valuable resource. However, where contamination presents a real or perceived threat to human health or the environment, options for future land use at a site may be limited. EPA's cleanup programs have set a national goal of returning formerly contaminated sites to long-term, sustainable, and productive use. To support this goal, Region 3 undertook a cross-program effort to collect quantifiable data on land uses occurring on cleanup sites to establish baseline information. Although anecdotal success stories exist to show that revitalization of cleanup sites is occurring, Region 3 sought measurable information on land use.

In conjunction with EPA's Office of Solid Waste and Emergency Response (OSWER) and our state agency partners, Region 3 collected land use information for all Resource Conservation and Recovery Act (RCRA) Corrective Action high priority, Superfund National Priority List (NPL), and Federal Facility cleanup sites to determine the following:

Land revitalization is the sustainable, productive and protective continued use and reuse of contaminated sites which promotes economic and social benefits to communities, results in cleanups protective for reuse, and helps preserve greenspace.

- Number of sites and acres of land being addressed by these cleanup programs
- Extent of reuse, as well as vacant property, at cleanup sites
- Types of uses and reuses occurring
- Relationship between the cleanup status of sites and reuse
- Agency efforts to support reuse, and the types and frequency of tools the agencies are using to facilitate use and reuse
- Local economic, social, or ecological benefits from reuse on cleanup sites
- Challenges in collecting this kind of information prior to developing and promoting broader national measures for land revitalization goals

Approach

A cross-program workgroup planned the land use assessment. The workgroup included representatives from Region 3 and OSWER's Land Revitalization, Superfund, RCRA Corrective Action, and Federal Facilities programs as well as state representation from the Virginia Department of Environmental Quality (VDEQ). The workgroup developed data elements and definitions, formatted the desired information into a Use/Reuse Assessment Form, and distributed the form to EPA and state project managers.

Project managers filled out the Land Use/Reuse Assessment Form for 511 cleanup sites using available data. For RCRA, the Region collected reuse information on the 289 high priority facilities that comprise Region 3's 2008 Government Performance Results Act (GPRA) baseline[1]. Nine of these RCRA sites are Federal Facility sites. For Superfund, reuse information was collected on Region 3's 174 Superfund NPL sites and 48 Federal Facilities being addressed under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), many of which are also on the NPL.

The information was reported in terms of both the number of sites and the number of acres. All the information from the assessment forms was transferred to a spreadsheet. OSWER provided contractor support to develop the spreadsheet and generate this report.

The data collected summarizes the current status of actual land use at cleanup sites in Region 3. However, this assessment did not account for external factors such as local market forces. Since external influences were not considered, the results may both under represent EPA and state efforts to facilitate reuse where insurmountable barriers exist and unduly credit the agencies where market forces had enough impetus to stimulate revitalization on its own.

Key Findings

Most Land at Cleanup Sites is Being Used

The results show that in Region 3 the overwhelming majority of land (93% of all acres) in the programs assessed is being used or has a plan for reuse. However, individual program results varied significantly. *(See Chapter 3 for program specific results)*. Of the land being used today, 81 percent continues to operate in the same general manner as when the site was contaminated (e.g., industrial facilities, military sites). However, a growing number of cleanup sites have new uses. Across the programs, 15,981 acres (7% of the total land) at cleanup sites have been reused and an additional 11,010 acres (5% of the total land) have a plan for reuse.

All site acres were first classified into four land use categories: (1) continued use, (2) reused, (3) planned reuse, or (4) no current use/vacant. Areas in use at a site were further classified into type of use such as industrial, commercial, recreational, residential, etc.

In a general sense, it can be assumed that the reuse of contaminated sites may help to reduce development pressure on nearby undeveloped areas. In 1997, through a grant provided by EPA, The George Washington University conducted a study to look at whether the redevelopment of brownfields reduces developmental pressures on surrounding greenfields (i.e., undeveloped areas). The study showed that on average for every acre of brownfield property redeveloped, a minimum of 4.5 acres would have been required had the same project been located in a greenfield area.

[1]The Government Performance and Results Act required all government agencies to develop program measures to track progress. EPA and the states developed a RCRA baseline to focus efforts on those facilities that likely pose the greatest threat. Based on a screen of facility specific environmental factors, EPA ranked facilities as High, Medium, or Low priority. For those sites which ranked High priority, EPA established cleanup goals to meet by 2008 and is tracking progress to achieve those goals.

Considering that close to 16,000 acres of land has been reused at hazardous waste cleanup sites in Region 3, it can be inferred that about 72,000 acres (about 112 square miles) of greenfield areas have been prevented from being developed. This estimate does not take into consideration the amount of new greenspace actually created or preserved on Region 3's cleanup sites as part of their reuse or continued use.

Cleanup Sites Provide an Opportunity for Reuse

This assessment identified 166 sites or portions of sites which are vacant, with 17,143 acres—an area approximately the size of Manhattan—of underutilized properties that may be available for reuse. However, not all of the property may be suitable for reuse. Some of the property is not recommended for use (2,680 acres or 16%), some of the property may have limitations on the kind of use which would be safe because it is being used to manage waste (e.g., landfills) and most importantly, land use and reuse is a local government and property owner decision, not an EPA or state decision.

Agency Efforts are Facilitating Reuse

In all programs, the level of effort to support reuse is consistent. Of the sites where reuse has occurred or is planned, Region 3 has been an active participant (81% of the time) in the process using a variety of tools to support reuse.

The different tools (e.g., comfort letters, meetings, review of reuse plans) used to facilitate reuse on each site were reported. This information can be used to demonstrate the level of effort that Agency staff are engaged in to support reuse.

Reuse Happens Concurrently with Site-wide Investigations and Cleanups

The data shows that reuse during at all stages of the investigation and cleanup and that property reuse is occurring while sites are under RCRA or Superfund authority. Although there may be challenges associated with reusing these sites, the data demonstrates that reuse often occurs at the same time as a site-wide investigation and cleanup and that reuse does not need to wait until completion of the RCRA or Superfund process.

Significant Benefits Result from Reuse on Cleanup Sites

Economic or environmental benefits associated with the use or reuse of the site were reported, but quantifiable data was not readily available to project managers. Although the Region was not able to gather extensive information, the benefits reported were significant. For example:

- 38 sites reported a total of 24,986 local jobs created or retained
- 13 sites reported reuse investments totaling nearly $4 billion in projected redevelopment investment
- 23 sites reported open space or sustainable reuse on the site
- 7 sites reported new housing construction resulting in a total of 189 new homes

Information was collected on the positive local economic, social, and ecological benefits associated with the use or reuse on the site, such as: jobs created; changes in property value; reuse investment; number of houses built; and green design.

Program Specific Results

One of the goals of the assessment was to establish a Regional baseline of current land use in acres for all sites to enable the Agency to track changes over time. The table below shows the baseline information for each program.

Region 3 Hazardous Waste Cleanup Sites
Sites and Acres for each Program

	All Cleanup Sites		Superfund NPL		Federal Facilities		RCRA Corrective Action	
	Sites*	Acres	Sites*	Acres	Sites*	Acres	Sites*	Acres
Total	511	23,0494	174	16,706	57	145,965	280	67,823
Continued Use	320	18,6360	66	7,395	45	126,704	209	52,261
Reused	109	15,981	42	941	23	10,154	44	4,886
Planned Reuse	70	11,010	27	2,484	19	2,622	24	5,904
No Use/Vacant	166	17,143	101	5,886	10	6,485	55	4,772

*Sites on this table include entire sites and portions of a site. Because some sites have more than one land use, the number of sites will add up to more than the total number of sites evaluated.

Superfund NPL

About two-thirds of Superfund acres are currently in some kind of use or have a plan for reuse. The majority of these acres are in mixed use, industrial use, or recreational use. More than half (54%) of all reuse and planned reuse occurring on Superfund sites is for greenspace (i.e., combination of acres reported as either recreational or enhanced ecological). A third of all Superfund acres in Region 3 are currently vacant (5,886 acres), and a third of these vacant acres (2,119) are not recommended for reuse because of contamination remaining on the site. This leaves close to 3,800 acres on 101 Superfund sites that may have some potential for future reuse.

RCRA Corrective Action

Only two-thirds of RCRA sites were reported to be operating in the same general manner as when the facility became part of the RCRA program in the 1980s. Nineteen percent of the sites have a new use or a plan for reuse in place on the entire site or a parcel; and a majority of the reuse is happening at parcels of former facilities, rather than site-wide. When redeveloped, this land is used for industrial operations only about half the time, indicating that the RCRA Corrective Action program will manage a broader range of uses over time. With 14 percent of sites vacant and additional vacant portions of sites, a total of 4,772 acres is potentially available for reuse at RCRA Corrective Action facilities.

Federal Facilities

The vast majority of land is currently in use as operating military bases with many of the types of uses including industrial, residential, recreational, and greenspace. However, there are close to 6,000 acres of vacant land on 10 Federal Facility sites that may have the potential for future reuse.

Conclusions and Recommendations

While many challenges were encountered collecting and analyzing this information, the goal of reporting quantifiable cross-program information on land use at cleanup sites was met and significant benefits associated with land reuse were identified. Region 3 established a quantifiable baseline to measure progress in returning cleanup sites to use, developed a list of vacant sites to target reuse efforts, and collected information for communicating revitalization results. The following recommendations are under consideration as a follow-up to this assessment effort:

- Fully explore opportunities to facilitate reuse on vacant sites
- Expand the land use assessment to other categories of cleanup sites
- Establish an electronic system or database to manage the information

EPA Regional management will decide whether Region 3 will collect and refine this information in future years and develop an approach for implementation. The decision on how to proceed with future data collection and the long term maintenance of land use information will be highly dependent upon decisions made at the national level with respect to national land revitalization measures.