

# Hazardous Waste

## 2013 GRADE D

### 2013 Report Card for America's Infrastructure Findings

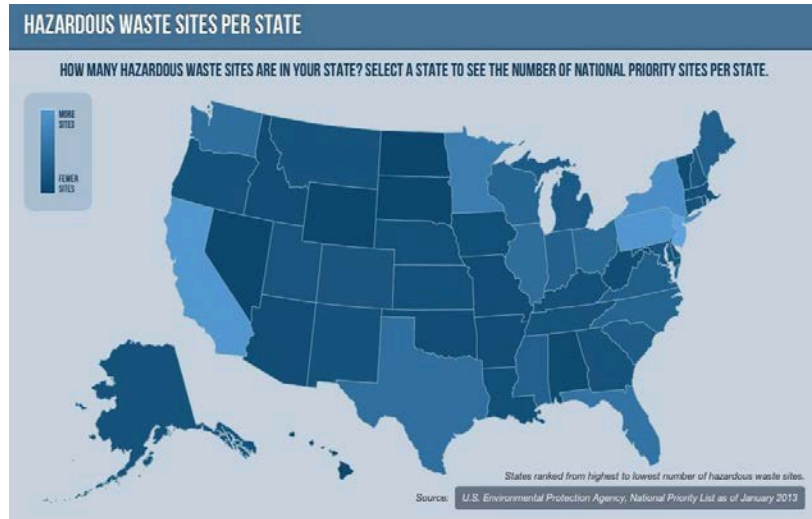
There has been undeniable success in the cleanup of the nation's hazardous waste and brownfields sites. However, annual funding for Superfund site cleanup is estimated to be as much as \$500 million short of what is needed, and 1,280 sites remain on the National Priorities List with an unknown number of potential sites yet to be identified. More than 400,000 brownfields sites await cleanup and redevelopment. The Environmental Protection Agency (EPA) estimates that one in four Americans lives within three miles of a hazardous waste site.

#### *Hazardous Waste: Conditions & Capacity*

During more than a century of industrial development in the United States, large volumes of hazardous waste were generated and disposed of, often in an environmentally unsound manner. Broadly defined, hazardous waste is waste that is dangerous or potentially harmful to our health or the environment. This includes discarded commercial products, such as cleaning fluids or pesticides, or the by-products of manufacturing processes. Recognizing that hazardous waste disposal without planning and management endangers the public health; Congress passed the Resource Conservation and Recovery Act (RCRA) in 1976 to manage hazardous waste from generation to disposal. States may implement stricter requirements than the federal regulations, and to date 42 states are authorized to manage their own programs. Total hazardous waste production in the United States in 2009 was slightly over 35 million tons.



To clean up hazardous waste produced and improperly disposed of prior to the enactment of RCRA, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980, creating the Superfund hazardous substance cleanup program administered by the Environmental Protection Agency (EPA). In the more than 30 years since enactment, scientists and engineers have developed increasingly sophisticated approaches to identifying and remediating contaminated sites.



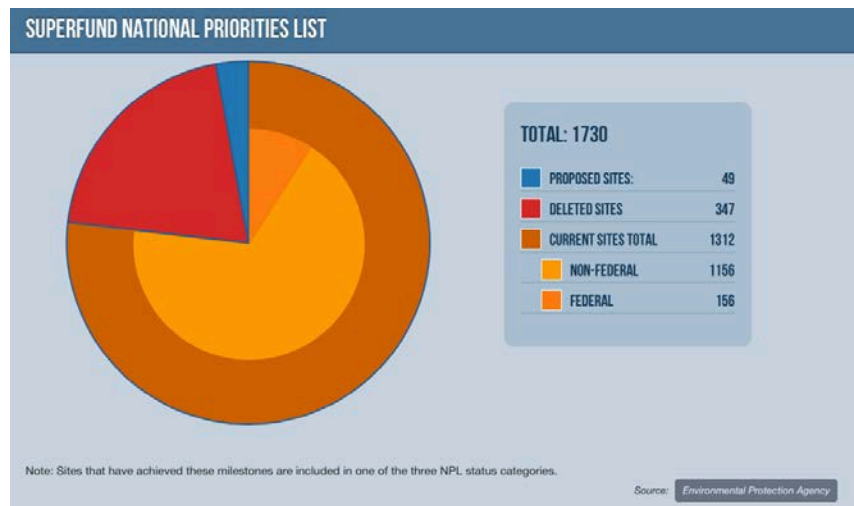
The National Priority List (NPL), maintained by the EPA, lists the known sites that release or threaten release of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

Since 1980, the EPA has investigated more than 47,000 sites suspected of releasing hazardous substances into the environment. Just over 1,600 sites have been placed on the NPL, and cleanup has been implemented at more than two-thirds of those sites.

The EPA is also charged with identifying the parties responsible for contamination of NPL sites and enforcing the cleanup of sites. If a party fails to comply with such an order, it may be fined up to \$25,000 for each day that noncompliance continues. Organizations that EPA has deemed “potentially responsible parties” have funded cleanup of more than 70% of the sites on the NPL, at an estimated value of nearly \$30 billion.

Where responsible parties cannot be found, the EPA is authorized to clean up a site itself, using a special trust fund. However, the fund is unable to finance the cleanup of even a small number of identified the sites on the NPL, and as a result, many sites go untreated. The EPA estimates that one in four Americans lives within three miles of a hazardous waste site.

Unfortunately, additional sites continue to be identified even as the number of current sites waiting for remediation increases due to insufficient funds. As of the end of 2010, there are 1,280 sites listed on the NPL, an additional 347 have been delisted, and 62 new sites have been proposed to be added to the NPL. There



are likely more potential Superfund sites in the United States, but how many is unknown.

Brownfields are a type of hazardous waste site that includes abandoned factories and other industrial facilities, gasoline stations, oil storage facilities, dry cleaning stores, and other businesses that used polluting substances. It is estimated that there are as many as 425,000 brownfields throughout the United States. Some estimates show that there are 5 million acres of abandoned industrial sites in our nation's cities – roughly the same amount of land occupied by 60 of our largest cities.

In 2002, the Brownfields Revitalization and Environmental Restoration Act established the federal brownfields redevelopment assistance program, run by the EPA with assistance from the U.S. Army Corps of Engineers, which is designed to help local governments with the cleanup of these commercial sites. According to the U.S. Conference of Mayors, over the past 17 years, 84% of cities report that they have successfully redeveloped brownfield sites, returning land to productive use and creating an estimated 160,000 jobs between 2003 and 2010. This trend should continue, as the number of reported brownfields sites has risen substantially, from just under 12,000 in 1993 to nearly 30,000 in 2010.



Kin Buc Landfill in Edison, NJ showing the heavily polluted Martin's Creek.  
Courtesy of U.S. National Oceanic and Atmospheric Administration

### *Hazardous Waste: Investment & Funding*

Even as needs have grown, annual congressional appropriations for Superfund have declined by 40% since its peak of \$2 billion in 1998. The amount that private parties have spent is unknown as they are not required to report actual spending. However, estimates put that number at near \$30 billion over the life of the program.

The Superfund program has in the past received funding from two sources: general funds from the U.S. Treasury and balances in the Superfund trust fund. Prior to 1996, revenues for the trust fund came from dedicated excise taxes and an environmental corporate income tax. Those taxes expired in December 1995, however, and the amount of unobligated money in the fund gradually declined to zero by the end of fiscal year 2003. Since 2003, the Superfund trust fund has been funded almost entirely through general revenues. A congressionally mandated study in 2001 estimated a "best case" funding shortfall of \$500 million a year between 2000 and 2009, and while there has been no follow-up study, it is clear the shortfall has continued and will continue into the future. A 2004 EPA report estimated that it would take \$209 billion over 30 to 35 years to clean up the nation's waste sites.

The brownfields grants program at EPA has been funded at a relatively steady rate for the past 10 years, with \$166.6 million allocated in 2003 and \$167.8 million allocated for 2012.

## Hazardous Waste: Success Stories

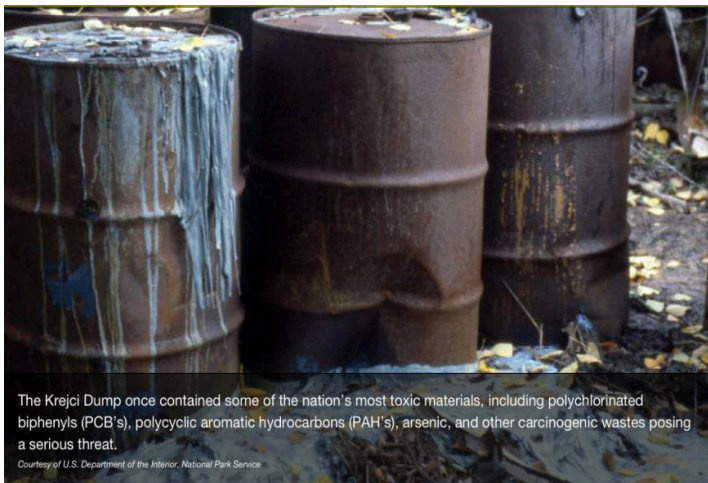
### Decagon Devices

Decagon Devices of Pullman, Washington, manufactures electronic sensors for the food, environmental research, and agriculture industries. A leader in its field, the company had long used traditional lead-based soldering for manufacturing circuit boards. Anticipating the expiration of their current exemption of lead-bearing exports to the European Union (EU) countries, Decagon took a proactive course to eliminate leaded products.

Decagon worked with Impact Washington, a not-for-profit organization that helps Washington state manufacturers compete globally to support the transition to lead-free solder. A specialized trainer was brought in to train and certify staff to an international certification standard for lead-free soldering, rework, and inspection soldering methods. This certification of in-house staff allows those certified in the processes to train new staff. The change to lead-free soldering has allowed Decagon to maintain and improve sales, especially in international markets. They also eliminated the generation of any associated lead-bearing hazardous wastes at the company and end-of-life, lead-bearing products disposed of by customers.

### Krejci Dump Clean Up

The Krejci dump was a privately owned dump occupying 46 acres near Boston Heights, Ohio. After the site was incorporated into the Cuyahoga Valley National Park, the National Park Service (NPS) discovered that the acreage, part of one of the most heavily used parks in the country, was also one of the most contaminated sites in the United States, and it subsequently became a Superfund cleanup site.



Investigation found more than 371,000 tons of contaminated soils and debris. In all, more than 5,000 leaking drums were found. At one point in the cleanup, thousands of multicolored flags covered the former dump's property, identifying different types and levels of hazards. Since soil had been contaminated by chemicals leaking from drums, dirt had to be removed from depths ranging from 12 inches to 25 feet. In the first 12 months of cleanup alone, 108,000 cubic feet of contaminated soil had been trucked out of the site.

Following remediation, most of the site has been graded and wild grasses are already repopulating the previously contaminated, barren soil. The ultimate goal of the NPS is to have the site appear as it originally would have, with native plants and wetlands covering the area.

## *Hazardous Waste: Conclusion*

The cleanup of the nation's hazardous waste sites has the potential to spur economic growth and community development and restore environmental vitality. However, the needed funding has not been provided. Well-funded Superfund and brownfield programs, with participation from local and state governments and private entities, are necessary to ensure that contaminated sites are identified and remediated.

## **Raising the Grades: Solutions that Work Now**

- **Reauthorize the federal Superfund taxes on chemicals, petroleum, and corporations** or create another federal funding mechanism to revive the Hazardous Substance Superfund cleanup program and remove the cost of cleanup from the general fund.
- **Create economic incentive programs** that consider environmental costs and encourage hazardous waste reduction "at the source" (point of generation) and the design of reuse programs.
- **Reauthorize the Brownfields Revitalization and Environmental Restoration Act** that would assist localities redeveloping brownfields sites.
- **Continue to fund existing federal programs** to finance the revitalization of America's brownfields.
- **Create a Brownfields Redevelopment Action Grant (BRAG) program** within EPA to provide investment funds for local governments to leverage private investment in brownfields redevelopment in order to help preserve farmland and open spaces.

