

# Superfund

## Annual Report



|||||FY2008



## Letter from the Office Directors

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This report provides highlights of the Fiscal Year (FY) 2008 activities and accomplishments of the U.S. Environmental Protection Agency's (EPA) Superfund program. These activities include short-term cleanups, site assessments, enforcement actions, long-term cleanups, emergency responses, addressing federal facilities, developing and supporting technology innovations, and engaging communities affected by Superfund sites in the cleanup process. This year's report also reflects a special focus on post-construction activities. We chose this focus because these activities are an increasing aspect of the program's workload, and we expect this trend to continue in the coming years.

While the Superfund remedial program continues to focus on putting sites on the National Priorities List (NPL), and then moving projects through the cleanup pipeline to remedy completion, there has been increasing emphasis placed on post-construction activities and ensuring long-term protection at these sites. Completing physical construction does not necessarily mean our work is done. In many cases, additional activities are needed at a site to achieve cleanup goals. These post-construction activities are an increasingly important facet of the Superfund program. Implementing these activities is critical to the realization of the program's mission to protect human health and the environment, and important for preparing land for future community uses. Long-term stewardship and the engineering and institutional controls used to maintain remedies that are protective of public health and the environment also are an important area for continued community involvement.

In addition to the post-construction focus, the report communicates progress across the spectrum of Superfund activities. For example, during FY 2008, the Agency:

- Continued work at 681 construction projects at 423 sites and completed all remedy construction at 30 sites around the country;
- Determined that an additional 85 sites qualified for the Sitewide Ready for Anticipated Use designation, bringing the cumulative national total to 343 sites;
- Conducted or oversaw 372 emergency response or removal actions;
- Obtained commitments from responsible parties to invest almost \$1.6 billion for investigation and cleanup of Superfund sites—the highest total in the last seven years; and
- Obtained commitments from federal agencies to sign enforceable federal facility agreements (FFAs) at all federal sites that do not have signed FFAs.

These examples are just a few of the many successes highlighted in the following pages. We invite you to read about our progress during FY 2008. We also hope that you view the progress this report chronicles as testimony to our ongoing efforts to clean up the nation's worst hazardous waste sites. Whether we use our long-term cleanup authority or take short-term actions to mitigate immediate threats, our goal is to protect human health and the environment and to return formerly contaminated lands to communities for productive use.





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## Highlights of FY 2008 Superfund Accomplishments

During FY 2008, the Superfund program continued to make significant progress in protecting human health and the environment and returning formerly contaminated lands to productive use. By the end of FY 2008, construction of the remedy was complete at 1,060 of the 1,587 final and deleted National Priorities List (NPL) sites. The program also has determined that 343 sites are ready to be returned to beneficial use by the community, putting both people and property back to work.

Working with states, tribes, communities, local governments, and other stakeholders, in FY 2008, EPA's Superfund program:

- Controlled all identified unacceptable human exposures at a net total of 24 sites, exceeding the annual target of 10 and bringing the program's end-of-year cumulative total to 1,306 sites under control;
- Controlled the migration of contaminated ground water through engineered remedies or natural processes at a net total of 20 sites, exceeding the target of 15 for the year and bringing the program's cumulative total to 997 sites under control;
- Completed the construction phase of cleanup at 30 sites across the country (for a total of 1,060 sites, or 67 percent of the sites on the NPL);
- Determined that 85 sites have long-term protections in place necessary for anticipated reuse, bringing the cumulative total of sites ready for anticipated use to 343;
- Conducted or oversaw 681 ongoing construction projects at 423 sites (includes EPA-funded sites, potentially responsible party [PRP]-lead sites and federal facility sites). This figure includes 16 new remedial construction projects at 15 sites initiated during FY 2008;
- Selected 97 cleanup plans at 73 sites, amended eight cleanup plans, and issued 42 explanations of significant differences (modifications of remedies after signing of a site's Record of Decision) at 39 sites;
- Listed 18 new sites on the NPL and proposed an additional 17 new sites;
- Conducted 221 five-year reviews to ensure that protective measures for waste that has been secured on-site remain intact; and
- Deleted nine sites from the NPL, and at three other sites, deleted a portion of the site from the NPL.

### Financial Overview

In FY 2008, Congress appropriated \$1.3 billion for the Superfund program. EPA secured additional private party commitments of nearly \$1.9 billion to fund cleanup work. Of this amount, PRPs agreed to conduct \$1.575 billion in future response work and to reimburse EPA for \$232 million in past costs. EPA billed private parties \$75.5 million for oversight costs.

During FY 2008, EPA obligated:

- More than \$218 million in appropriated funds, state cost-share contributions, and PRP settlement resources to conduct and oversee site assessments and investigations, select and design cleanup plans, and support state, tribal, community involvement, and other activities.
- Nearly \$599 million for construction and post-construction activities and for conducting and overseeing emergency response actions. This amount includes nearly \$462 million in appropriated funds, state cost-share contributions and PRP settlement resources for construction and post-construction projects, and nearly \$137 million for more than 372 emergency response and removal actions to address immediate and substantial threats to communities.
- More than \$55 million in appropriated funds, state cost-share contributions, and PRP settlement resources to start cleanup construction at 16 projects ranked by the National Risk-Based Priority Panel at 15 NPL sites.

While Superfund's accomplishments are significant, challenges remain. As the Superfund program matures, the size, complexity, and cost of activities at sites continue to grow. In FY 2008, nearly 57 percent of Superfund obligations for construction and post-construction activities went to just 17 sites. Due to funding needs for ongoing construction work, not all new projects ready for construction funding received it. While EPA funded 16 new construction projects, 10 new projects that were ready to initiate construction were not funded.





## Achieving Success throughout the Superfund Process

The Superfund cleanup process is complex. For sites requiring long-term cleanups, the process involves the steps taken to assess sites, place them on the NPL, and establish and implement appropriate cleanup plans. In addition, the Agency has the authority to:

- Conduct removal actions where immediate action needs to be taken;
- Enforce against PRPs;

- Enforce FFAs and approve remedy decisions of lead agencies;
- Ensure community involvement;
- Involve states; and
- Ensure long-term protectiveness.

The blueprint for these activities is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), a regulation applicable to all federal agencies involved in responding to hazardous substance releases.

### The Superfund Pipeline

#### *Site Discovery and Assessment...*



#### *Site Discovery*

#### *Site Assessment and Hazard Ranking System*

- No Further Response Action
- Other Appropriate Program
- NPL

#### *Response...*



#### *Emergency Response, if necessary Removal Action and/or Remedial Action*

- Further Investigation (RI/FS)
- Remedy Selection (ROD)
- Remedy Construction
- Construction Completion

Long-Term Response Action  
Operation and Maintenance  
Five-Year Reviews  
Sitewide Ready for Anticipated Use  
NPL Deletion

#### *Post Construction Completion*





## Site Discovery

The Superfund cleanup process begins with site discovery or notification to EPA of a possible release of hazardous substances. Once discovered, sites are pre-screened and most are removed from further consideration because they pose little or no potential threat to human health or the environment. State agencies refer the majority of sites to EPA.

## Site Assessment

EPA enters sites not screened out at the discovery phase into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS, the Superfund inventory of active sites), and EPA or its state, tribal, or other federal partner assesses these sites to determine whether further response is warranted. After site assessment, only about two percent of sites remain to be considered for potential listing on the NPL.

Following site assessment, EPA and its state and tribal partners identify the most appropriate program to address sites requiring cleanup. Programs considered include a state voluntary or enforcement program; the Resource Conservation and Recovery Act (RCRA) corrective action program; the Superfund removal program; and the Superfund remedial action program, by listing on the NPL or as a Superfund alternative-approach site. Based on recent screening rates, only about one percent of sites assessed are placed on the NPL.

## Hazard Ranking System and National Priorities List

For a site to be addressed under the Superfund remedial program, the data developed from site assessment are used to evaluate the site under the Hazard Ranking System (HRS), a numerically based screening system that assesses the hazards a site poses to human health and the environment. The HRS score is calculated by analyzing waste characteristics, the pathways of exposure (e.g., ground water, surface water, soil, and air), and potential targets (e.g., human populations or sensitive environments).

The preliminary HRS score is used to determine whether further investigation is necessary or whether the site should receive a “No Further Remedial Action Planned” (NFRAP) designation. A NFRAP designation means that further remedial assessment under EPA’s Superfund program is not planned, although a Superfund removal assessment and

### EPA Completes 40,000<sup>th</sup> Final Assessment Decision

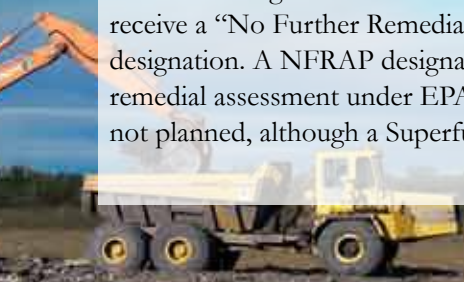
In April 2008, EPA completed the 40,000<sup>th</sup> Final Assessment Decision (FAD) under the Superfund program, one of the 415 FADs completed by EPA and its partners during FY 2008. A FAD indicates the completion of all Superfund remedial assessment work at a site; it is one of the key measures tracked by EPA under the Government Performance and Results Act. As of August 2008, the universe of sites eligible for FAD decisions, which grows by about 200 sites per year, stood at about 44,000. Approximately 84 percent of the sites with a FAD indicate no cleanup work is necessary under Superfund. The remaining 16 percent indicate cleanup attention is needed under Superfund or other federal, state, or tribal environmental cleanup programs.

action may still take place. Sites that score above a certain threshold are eligible for listing on the NPL. If listed on the NPL, a non-federal site becomes eligible for remedial funding. In FY 2008, the Superfund program listed 18 new sites on the NPL and proposed an additional 17 sites. The majority of Superfund sites (1,211 of 1,587) were listed before 1991. Given the development in the 1990s of other site cleanup programs, particularly state programs, it is not surprising that in recent years EPA has considered fewer sites for NPL listing. In fact, this phenomenon demonstrates the maturity and success of other environmental programs nationwide.

EPA continues to list sites every year as the Agency and its partners identify new sites warranting Superfund attention. The response process can take several years, and involves investigation, study, and remedy selection, design, and construction. Only after a remedy is selected for long-term cleanup are private party or orphan sites eligible for long-term cleanup funding. In addition, EPA monitors sites for any change in status that may require additional short-term or emergency cleanup.

## Responding to a Release

When EPA determines that a federal response is necessary, the Superfund law, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), provides several options for responding to an actual or potential release of a hazardous substance, pollutant or contaminant. Options include initiating a removal action or a remedial action; the cleanup also can be Fund-lead or PRP-lead (with EPA oversight).



## Emergency Response and Short-Term Removal Actions

In FY 2008, EPA obligated nearly \$137 million to conduct and oversee 372 emergency response and removal actions to address immediate threats to communities. There are three types of removal actions: (1) emergency removals, where action is required within hours or days; (2) time-critical removals, where timely action (which the lead agency has up to six months to plan) must begin to protect human health or the environment; and (3) non-time-critical removals, where the lead agency has at least six months to plan the response action. EPA uses its removal authorities to take actions, such as removing leaking drums from a site or providing alternative drinking water at NPL and non-NPL sites, if the Agency determines that available supplies are unsafe.

EPA undertakes an emergency action to respond to an actual release, or to prevent potential releases and their consequences. To prevent a potential release, EPA responded to an emergency in February 2008 near Leadville, Colorado, high in the Rocky Mountains. A former mine drainage tunnel clogged by debris was threatening to burst and spew millions of gallons of metals-contaminated acid mine drainage into the Arkansas River. Within two weeks, the EPA team installed a temporary pumping system in a nearby mining shaft to help relieve water pressure in the Leadville mine drainage tunnel. Using emergency response authorities, the team then drilled a permanent relief well 350 feet below the surface into the 60-year-old tunnel. Under the same authorities, EPA installed almost one mile of pipeline from the well site to the water treatment plant. EPA's actions addressed the concerns of the community and local, state, and federal elected officials.

Sites such as the Stenton Trust Mill site in Sanford, Maine, require a short-term cleanup consisting of one or more removal actions. Working closely with the Maine Department of Environmental Protection and local officials, EPA Region 1 and its contractors performed a time-critical removal action in September 2008 to mitigate any actual or potential exposure to the hazardous substances in and around the site, which included volatile organic compounds (VOCs), semi-volatile organic compounds, polychlorinated biphenyls (PCBs), and other contaminants.

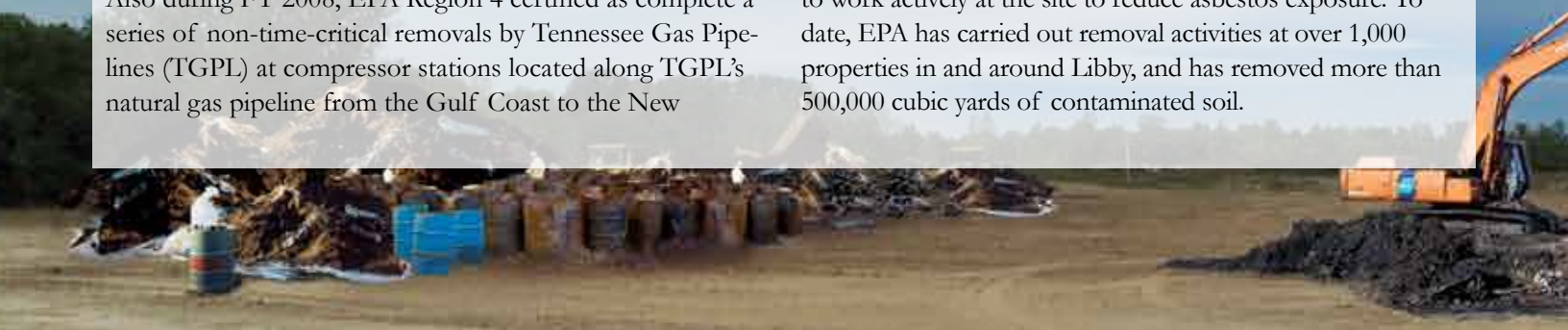
Also during FY 2008, EPA Region 4 certified as complete a series of non-time-critical removals by Tennessee Gas Pipelines (TGPL) at compressor stations located along TGPL's natural gas pipeline from the Gulf Coast to the New

England Coast. This project involved 48 non-time-critical removal actions (37 on-facility and 11 off-facility) that were conducted to remove PCBs and other hazardous substances. For the off-facility projects, a total of 11,810 linear feet of PCB-contaminated drainage channels and/or stream beds were remediated.



*40-Foot Drill Rig Used to Reach Tunnel in Leadville, Colorado*

Removal actions often can be the first step in a long-term remedial action. While completing remedy construction at large, complex sites may take many years, the first step at each site is to address immediate risks through the removal program. To date, the Superfund removal program has conducted 9,400 removals at more than 6,900 sites, including 372 removals in FY 2008. More than 2,400 of the removals have occurred at NPL sites. In fact, EPA has carried out removal actions at 56 percent of the sites on the NPL, including 142 removals at NPL sites not yet in the long-term construction phase. For example, in 1999, EPA began removal actions in Libby, Montana. EPA listed the Libby Asbestos site in 2002. Although a final remedy has not yet been selected, the Agency continues to work actively at the site to reduce asbestos exposure. To date, EPA has carried out removal activities at over 1,000 properties in and around Libby, and has removed more than 500,000 cubic yards of contaminated soil.





### EPA Region 7 Addresses Lead-Contaminated Sites

Sometimes EPA addresses a set of sites that share the same contaminants because similar activities were conducted on them over the years. Such is the case in EPA Region 7, where the Region has conducted cleanups at numerous sites contaminated with lead. This contamination resulted from the mining and smelting activities that began in the mid-1700s and continues today in some areas of the Region.

As of the end of FY 2008, EPA Region 7 has removed over 1,000,000 cubic yards of lead-contaminated soils from more than 10,000 properties. These activities have addressed more than 5,000,000 cubic yards of lead-contaminated mine waste and promoted securing permanent alternate water supplies for more than 1,400 homes. These actions also have contributed to significant reductions in elevated blood-lead levels in children in several communities, while also significantly decreasing the effects of metals-contaminated mine waste in the natural environment.



### Remedial Actions

EPA or PRPs (including other federal agencies) usually need to conduct further investigation to determine the most appropriate remedy for a site. This phase is called the remedial investigation/feasibility study (RI/FS). Once a remedy has been selected, EPA or PRPs with EPA oversight then design the remedial action.

Superfund remedy selection has evolved over the years. Since 1995, EPA has worked with communities, property owners, and local governments to identify the reasonably anticipated uses of a property in order for anticipated uses to be considered during remedy selection. For example, Scenic Galveston, Inc., a nonprofit organization dedicated to wetlands restoration, purchased the Malone Service Company Superfund site in Texas City, Texas, to establish a bird watching preserve. In anticipation of that future use, EPA Region 6 risk assessors worked with the PRPs to design a more protective cleanup plan than that required for the industrial-use scenario originally envisioned for the site. The final decision for the Malone Service Company site will incorporate this new scenario into the remediation goals to ensure a cleanup protective of bird watchers. At the 50-acre Federal Creosote site in Manville, New Jersey, EPA Region 2 coordinated the cleanup to be consistent with the future uses contemplated

in the town's redevelopment plans. The property will include a mixture of greenspace, additional housing and commercial space, and is a significant component of Manville's Town Center redevelopment plan. EPA completed remedial activity at the Federal Creosote site during FY 2008.

To ensure that remedies are cost-effective and employ the most recent technologies, EPA convenes a board composed of Headquarters and regional office experts to review all remedies expected to cost more than \$25 million. This review usually takes place before a remedy is proposed. Once EPA proposes a remedy, the Agency solicits public comment on it. When necessary, EPA works to resolve stakeholder concerns about a remedy, and after such issues are resolved, EPA documents the selected remedy in a Record of Decision (ROD).



*Tar Creek House Located Adjacent to a Chat Pile*

In February 2008, EPA Region 6 issued a ROD for the Tar Creek site in Oklahoma, one of the largest Superfund sites in the nation. By looking beyond the routine cleanup approaches and standard operating procedures, the site team designed a cost-effective \$167 million remedy that ensures environmental justice, returns thousands of acres to unencumbered use, and allows for a return to the tribal way of life. The remedy design also defines the criteria for the continued safe conduct of a local commercial industry and thereby protects the related job market into the future. While significant challenges still loom at the site—including resolution of liability issues—the ROD was a significant milestone in the cleanup of this large, complex site. The Tar Creek ROD was among 97 cleanup plans selected at 73 sites during FY 2008. EPA also amended eight cleanup plans and issued 42 explanations of significant differences at 39 sites during FY 2008.

Once a remedy design is complete, EPA or the PRPs with EPA oversight construct the remedy. In FY 2008, EPA Region 9 initiated construction at the Iron Mountain Mine site

### Greener Remediation by Reducing Diesel Emissions at Camp Pendleton, CA

Camp Pendleton Marine Corps Base in San Diego, California, utilized innovative cleaner-burning construction equipment to excavate 120,000 cubic yards of contaminated soil as part of Region 9's Cleanup-Clean Air Initiative. Camp Pendleton is the Marine Corps' primary amphibious training center, training over 60,000 soldiers annually. Land uses include airfield operations, maneuver and impact areas, troop and family housing and recreation areas. This project was the result of a partnership between EPA, the U.S. Navy, U.S. Marine Corps, West Coast Environmental (the cleanup contractor), and Caterpillar and Huss (equipment suppliers). Diesel emissions were reduced by using clean diesel technologies, retrofitted equipment, ultra-low-sulfur diesel fuel, and biofuels on six construction vehicles to remove soil contaminated with metals, dioxins/furans, and pesticides and dispose of these soils off-base.



in Redding, California, starting with the first phase of the remedy to address sediment in the Keswick Reservoir. This phase involves removing three metal precipitate sediment piles that collected in the Spring Creek Arm of the Keswick Reservoir during the 50 years that the mine operated. These piles pose a significant threat to the salmon populations that spawn in the Sacramento River and must be removed to avoid a catastrophic release.

During FY 2008, EPA's Superfund Redevelopment Initiative (SRI) provided resources to Regions to help communities think about the future use of sites. These resources can be used to consider reuse at any stage in the cleanup process. SRI also took a new approach to providing resources to communities during FY 2008. Regions may now request funding for a "situation assessment" before applying for additional resources to help consider reuse. During FY 2008, SRI provided resources to perform situation assessments at four sites in Regions 7 and 9. Three of these sites, all in Region 9, went on to receive full regional seed resources in 2008, and one will receive regional seed resources in 2009. In addition, SRI provided resources to support reuse to a site in Region 1 and continued activities at sites in Regions 4, 7, and 8.

Also in FY 2008, EPA's cleanup programs, including Superfund, continued to explore how to effectively incorpo-

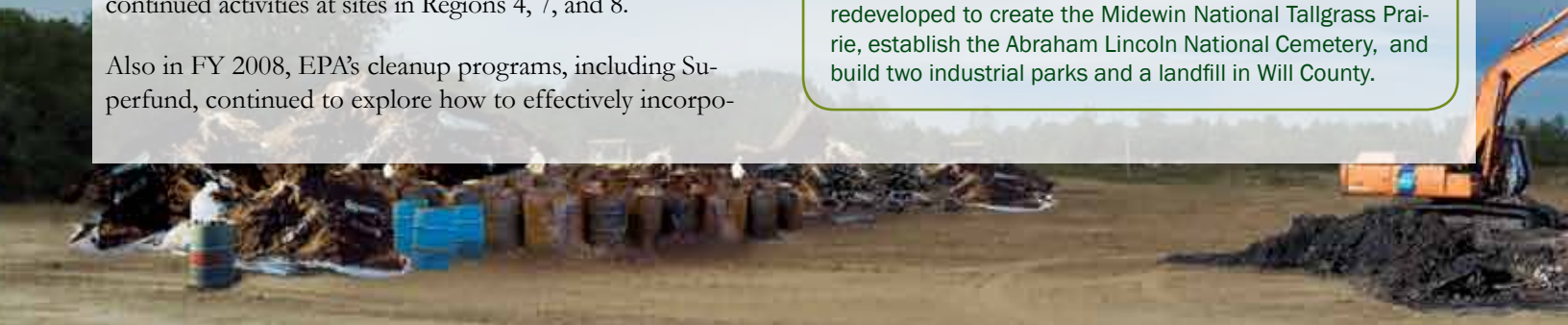
rate "green remediation" best management practices into cleanups. "Green remediation" may include considering the environmental effects of remedy implementation and incorporating options to maximize the net environmental benefit of cleanup actions. Considerations may include energy requirements, efficiency of on-site activities, and the reduction of impacts on surrounding areas. In future years, EPA expects that land remediation programs will increasingly consider green remediation and the creation and use of renewable energy. EPA expects to release a green remediation strategy in 2009, the goal of which will be to foster greater consideration of greener remediation practices across Superfund. The strategy is intended to be a resource to site project managers and others by identifying opportunities regarding cleanup practices, helping build green remediation capacities and creating mechanisms to enable the use of green remediation practices.

Remediation work continued on 681 construction projects at 423 sites, and construction was completed at 30 sites across the country during FY 2008, including the two Superfund sites that comprise the Joliet Army Ammunition Plant site.

Construction completion is a key milestone in the Superfund cleanup process. A site is considered "construction complete" when all construction work at all of the remedies at the site is complete.

### Construction Complete at Joliet Army Ammunition Sites

The cleanup and redevelopment of the Joliet Army Ammunition Plant (JOAPP) is a national model for how federal, state, and local government can work effectively over time with communities, non-governmental organizations, and the private sector to develop win-win solutions to difficult problems. The Joliet Army Ammunition Plant in Illinois, comprises two contiguous Superfund sites and was one of the nation's largest and most productive ordnance complexes. After the JOAPP was declared excess in 1993, the U.S. Army, EPA, and Illinois EPA worked in conjunction with the local Joliet Arsenal Citizens Planning Commission to formulate a cleanup and reuse plan for the property. In 2008, the cleanup was completed—three years ahead of schedule. Nearly all of the land has been transferred and is being redeveloped in ways that are already accruing significant economic and ecosystem restoration benefits for the community and the region. Parts of the site have been redeveloped to create the Midewin National Tallgrass Prairie, establish the Abraham Lincoln National Cemetery, and build two industrial parks and a landfill in Will County.





## Cleanup of Uravan Mill Site Completed

In September 2008, EPA Region 8 certified the completion of the 20-year, \$120-million cleanup of the Uravan Mill Superfund site in Colorado. The former uranium and vanadium mine and processing site is located along the San Miguel River in western Montrose County.



Before

The 680-acre site had long been contaminated with radioactive residues, metals, and other inorganic materials. Operations at Uravan date to the dawn of the atomic age, and its closing coincides with renewed interest in uranium mining and milling in the area. Umetco, a subsidiary of Dow Chemical, has operated the facility since 1984.



After

During the cleanup, more than 13 million cubic yards of mill tailings, evaporation pond precipitates, water treatment sludge, contaminated soil, and debris from more than 50 major mill structures were collected and disposed of in four on-site repositories.

More than 380 million gallons of contaminated liquid collected from seepage containment and ground water extraction systems were treated at the mill site. The site and surrounding area will be used in the future for recreation and as a wildlife habitat. One portion of the site will be transferred to the Department of Energy (DOE) for long-term management, while another will be used as a campground and visitor center, complete with a museum dedicated to uranium mining and milling in Western Colorado.

- Initiated 35 new PRP-lead remedial actions or long-term cleanups.

EPA vigorously pursues all liable parties for Superfund cleanup costs, including bankrupt parties. In FY 2008, W.R. Grace paid \$250 million to clean up asbestos contamination at the Libby, Montana, Superfund site, a new record for the amount of money paid in bankruptcy to clean up a Superfund site. In addition, W.R. Grace agreed to an allowed claim in bankruptcy of \$34 million for the cleanup of 32 Superfund sites in 18 states.

EPA also takes action when federal facilities do not comply with cleanup agreements. In FY 2008, EPA enforced against the U.S. Navy for failure to properly monitor wells at the Brunswick Naval Air State in Maine. EPA enforced against DOE for failure to perform cleanup work at the Hanford site in Washington. DOE agreed to pay a \$285,000 penalty, purchase two emergency response boats (at an estimated cost of \$200,000) for the local sheriff's office to respond to hazardous materials spills, and construct a \$600,000 greenhouse and nursery at the campus of Washington State University. The greenhouse/nursery will grow native vegetation to rehabilitate habitat at the site. DOE also agreed to pay a \$75,000 penalty for missing cleanup deadlines.

EPA issued a Resource Conservation and Recovery Act (RCRA) order requiring the Air Force to investigate and take action to clean up contamination at the Tyndall Air Force Base NPL site in Florida. This order was issued after EPA found that there may be an imminent and substantial endangerment at the site due to pesticides, heavy metals, volatile organics and residues from ordnance, jet fuel, and oil that were found in ground water, surface water, soil and sediments at the base. Ground water is only two to three feet below the surface and is used for drinking. DDT has been found in the sediments in nearby Shoal Bayou which is used for recreational fishing and wading and which has sensitive ecological resources such as fish, shellfish, and birds.

## Enforcement

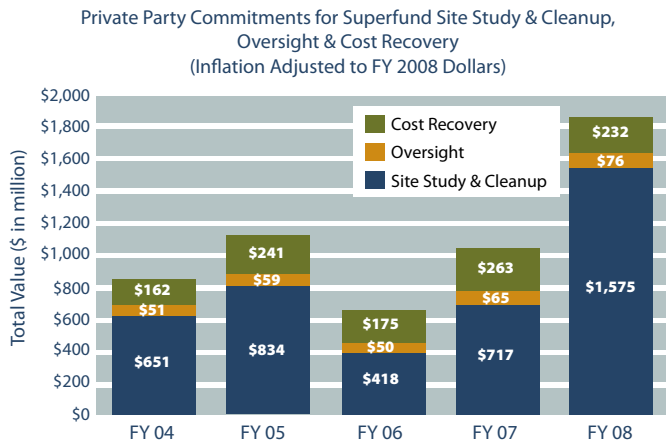
EPA remains committed to "the polluter pays" principle. With CERCLA's robust enforcement, in FY 2008 private parties agreed to invest approximately \$1.6 billion to clean up contamination and to reimburse EPA \$308 million for its past response and oversight costs.

During FY 2008, the Superfund program:

- Entered into 124 agreements with PRPs to initiate response work;
- Achieved 72 settlements with funds designated for special accounts, six de minimis settlements, and one orphan-share settlement; and

## Federal Facilities

EPA oversees environmental cleanups resulting from past improper hazardous materials and waste handling and disposal operations at federal facility sites, primarily at Department of Defense (DoD) and DOE installations. EPA provides oversight and technical assistance at NPL and selected non-NPL federal sites, addresses policy issues related to cleanup, supports the DoD's Base Realignment



Note: All prior FY dollar figures in this report are adjusted to reflect the current value in FY 2008 dollars based on the monthly rate of inflation as determined by the U.S. Department of Labor Consumer Price Index for All Urban Consumers. FY 2008 Data source for Cleanup and Cost Recovery: Comprehensive Environmental Response, Compensation & Liability Information System (CERCLIS), October 30, 2008; FY 2008 Data source for Oversight: Integrated Financial Management System (IFMS), October 18 2008; Data source for previous fiscal years: CERCLIS and IFMS.

and Closure (BRAC) program, and promotes revitalization of federal properties. EPA also provides technical assistance to other federal entities, states, tribes, local governments, and communities during the cleanup of federal properties to ensure that statutory responsibilities related to the transfer of contaminated federal properties at NPL and non-NPL sites are properly met. This includes approving property transfers prior to implementation of remedies at NPL sites (i.e., early transfer), and making determinations that remedies are operating properly and successfully. Communities benefit because, after transfer, excess federal properties have been converted to many beneficial uses. Examples include a business/commercial park, wildlife reserve, greenspace, and a multi-family housing complex.

Superfund federal facility activities often are highly visible because of the potential threats posed by military weapons sites; the impact of military base closings; the resources needed to implement DoD/DOE cleanups; and heightened state, tribal, local government, and other stakeholder interests. These facilities include Formerly Used Defense Sites (FUDS), abandoned mines, nuclear weapons production facilities, fuel distribution areas, and landfills.

There are over 150 final federal facility sites on the NPL which require EPA and the federal agency that owns or operates the NPL site to enter into an enforceable agreement governing the cleanup and laying out each party's responsibilities. Approximately 158 NPL federal facilities have signed interagency and federal facility agreements.

During FY 2008, EPA, the U.S. Navy, the U.S. Department of the Interior and the Commonwealth of Puerto Rico finalized an enforceable agreement for a former military site on the island of Vieques off Puerto Rico. The agreement requires that the environmental impacts associated with past and present activities on Vieques and its surrounding waters be thoroughly investigated and that appropriate actions be taken to protect the community and the environment. The agreement will facilitate cooperation, exchange of information, and participation of all the parties involved.

EPA and the U.S. Coast Guard also completed an enforceable agreement governing the cleanup of the Coast Guard's Curtis Bay facility in Baltimore, Maryland. The agreement requires the Coast Guard to thoroughly investigate environmental impacts associated with past activities, and to take appropriate actions to protect the community and the environment. The agreement identifies roles, responsibilities, processes, and schedules that EPA will follow to protect the environment and support approved land uses.

To date, 862 remedial actions have been completed at NPL facilities. At the end of FY 2008, 653 remedial projects (398 RI/FSs, 51 Remedial Designs, and 204 Remedial Actions) were underway at NPL sites.

### New Auto Plant Planned on Volunteer Army Ammunition Plant Site

Between 2001 and 2008, close coordination among EPA Region 4, the Tennessee Department of Environment and Conservation (TDEC), the U.S. Army, and local partners has led to the cleanup and redevelopment of the Volunteer Army Ammunition Plant site, part of a former Army TNT manufacturing facility in Chattanooga, Tennessee.



In July 2008, Volkswagen announced the construction of a \$1 billion, 950-acre auto assembly plant on the property, spurred by a local and state incentive package totaling \$577 million over the next 30 years. More than 3,100 acres of site property have been cleared for transfer to the National Park Service, Hamilton County, and the City of Chattanooga for light industry, municipal buildings, and parks and recreation.



FY 2008 accomplishments for the federal facilities program included:

- Issuing 92 cleanup decision documents at federal facility sites;
- Starting 33 RI/FSs;
- Beginning 56 remedial actions;
- Completing 58 remedial actions;
- Achieving two construction completions;
- Achieving Sitewide Ready for Anticipated Use status at eight federal facility sites; and
- Completing 26 five-year reviews.

## Community Involvement

Stakeholder involvement is an integral part of the Superfund cleanup process. It begins early and is sustained throughout all stages of site work. During FY 2008, EPA continued to work in partnership with states, tribes, other federal agencies, and PRPs to identify, assess, clean up, and prepare Superfund sites for reuse, and to actively involve communities and other interested stakeholders throughout the process. EPA recognizes that stakeholders should have a voice in the cleanup decision-making process, and that robust stakeholder involvement improves the quality and acceptability of cleanups.

The Superfund community involvement program helps make the community valuable participants throughout the cleanup process. By listening to the community's needs and concerns, EPA often can tailor remedies to address them. Involvement in the remedy selection process and throughout cleanup also helps the community understand the trade-offs associated with different cleanup options and the basis for many cleanup decisions.

Community involvement has been a critical aspect of the remediation effort at the Escambia Wood Treating Company site (ETC), where the third largest relocation in EPA history was completed in 2008. EPA Region 4 currently is implementing the soil cleanup at the ETC site, an abandoned wood-preserving facility in Pensacola, Florida. The facility treated utility poles, foundation pilings, and lumber with creosote and pentachlorophenol. In October 1991, EPA excavated approximately 225,000 cubic yards of contaminated material and stockpiled it under a secure cover at the site.

In 1997, permanent relocation of 358 households around the site began as part of EPA's National Relocation Evaluation Pilot Project. Phase 1 included permanent relocation of 358

## Partnerships Key to Addressing Navajo Nation Abandoned Uranium Mines

In June 2008, EPA Region 9, in partnership with DOE, the Bureau of Indian Affairs, the Indian Health Service, and the Nuclear Regulatory Commission, finalized a five-year plan for cleaning up the legacy of abandoned uranium mining on Navajo Nation land. This landmark plan outlines a strategy for cleanup and details the cleanup process over the next five years. It is the first coordinated approach created by the five federal agencies.

From 1944 to 1986, nearly four million tons of uranium ore were extracted from Navajo lands under leases with the Navajo Nation. Many Navajo people worked the mines, often living and raising families nearby. Today the mines are closed, but a legacy of



uranium contamination remains, including over 500 abandoned mines, as well as homes and drinking water sources with elevated levels of radiation. Since 1994, the Superfund program has provided technical assistance and over \$13 million in funding to assess potentially contaminated sites and develop a response.

EPA is addressing the most urgent risks on the reservation—uranium-contaminated water sources and structures. EPA already has assessed more than 113 structures and yards, and targeted at least 25 structures and 12 yards for remediation as a precaution. As additional mines that pose risks are discovered, EPA may use Superfund authorities, including the NPL, enforcement against PRPs, or emergency response, to require cleanup. At the Northeast Church Rock Mine, the highest-risk mine on the reservation, EPA is requiring the owner to conduct a cleanup that is protective of nearby residents.

Although the legacy of uranium mining will take many years to address, this collaborative effort will bring an unprecedented level of support and protection for the people at risk from these sites.

households in four neighborhoods, the demolition of existing structures, and restriction of land use to commercial purposes. The Clarinda Triangle neighborhood relocation was added to the scope of the action in 2006, and an additional 38 households were voluntarily relocated. The last offer-to-sell was negotiated in August 2008. In all, more than 500 persons were successfully relocated to comparable replacement housing in Pensacola and surrounding areas as part of this action.

EPA Region 4 worked closely with the affected community throughout the process. With a Superfund Technical Assistance Grant (TAG) awarded by EPA, the community engaged the services of an independent technical adviser to help it interpret site data and the relocation process. This assistance allowed the community to participate more fully in site decision-making, including the long and often difficult relocation process. After the relocation was completed, EPA performed environmental assessments of the abandoned structures before beginning demolition activities. Community involvement efforts clearly paid off. The president of the Clarinda Triangle Association reported that the community “cannot imagine the work going any better, kudos to all!”

## Public Information/Increasing Transparency

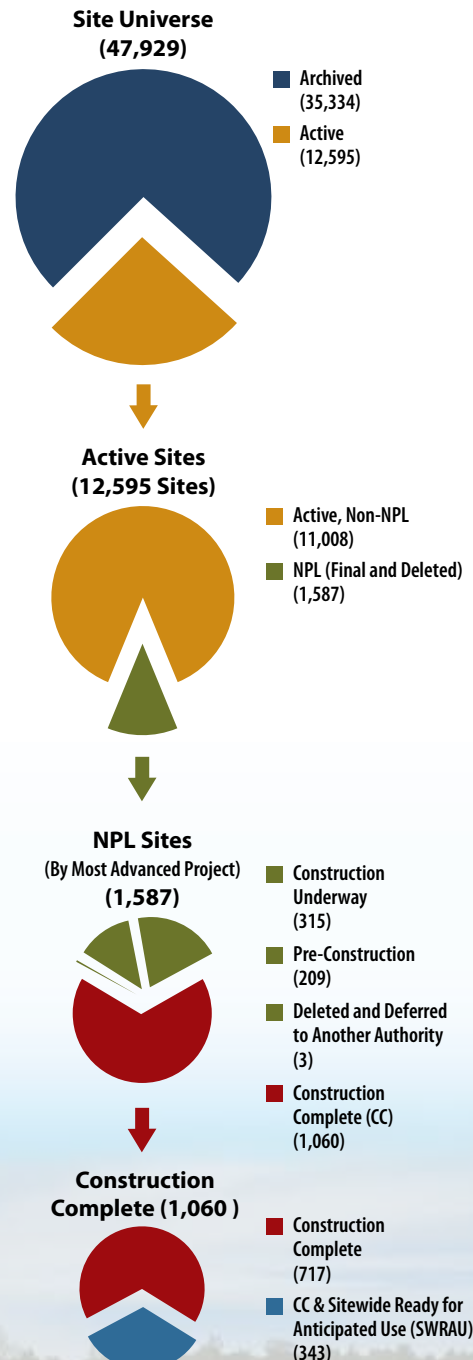
Over the last several years, EPA has greatly expanded the amount of information available to the general public regarding Superfund sites. Superfund Site Profiles, available for all sites proposed to the NPL, currently final on the NPL or deleted from it, display site progress in a standard format (<http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm>). Each profile includes information such as the current status of cleanup efforts, what cleanup milestones have been reached, and how much liquid and solid-based media have been treated. Additionally, the profiles include links to information found on EPA regional Web sites. All information is presented in easy-to-understand, non-technical language.

EPA has enhanced the availability of information regarding Superfund sites in the following ways:

- EPA's community involvement coordinators regularly communicate site information to community members who live near Superfund sites through public meetings, mailings, and published notices.
- On its Superfund Web site ([www.epa.gov/superfund](http://www.epa.gov/superfund)), EPA posts RODs and other key decision documents, including ROD amendments and explanations of significant differences (modifications of remedies after signing of a ROD) for NPL sites. More than 3,300 Superfund program documents are currently available on the Web site.
- To enhance the visibility of sites and encourage their reuse, EPA has added information about sites that meet the Sitewide Ready for Anticipated Use (SWRAU) performance measure in Superfund Site Profiles.
- EPA has added information from its Institutional Control (IC) Tracking System to Superfund Site Profiles for those sites for which EPA has quality-assured the information and made certain it can be reliably documented. This information provides the public with the status of a site's ICs, including whether an IC is needed and what legal mechanisms will be used to implement it.

- To reach an even broader audience, EPA has been working to include site information on the Agency Web site, “Cleanups in My Community” (<http://iaspub.epa.gov/Cleanups/>), and has worked with data providers such as Microsoft, Environmental Systems Research Institute, and Google to develop the necessary links to allow these companies to access EPA site information and overlay it on maps and other geospatial displays (such as Google Earth).

## Superfund Site Activity





## Post-Construction Completion: Maintaining Protection Over the Long Term

By the end of FY 2008, 67 percent of final and deleted NPL sites were “construction complete.” With so many sites now at this post-construction stage, the Superfund program must focus attention and resources to implement the activities necessary to ensure that remedies remain protective over the long term. These post-construction activities generally begin when a site achieves a construction complete designation. Sites qualify when:

- Any necessary physical construction is complete, whether or not final cleanup levels or other requirements have been achieved;
- EPA has determined that the response action should be limited to measures that do not involve construction; or
- NPL deletion requirements have been met.

The goal of post-construction completion activities is to ensure that Superfund response actions provide for the long-term protection of human health and the environment. EPA's post-construction completion activities also involve optimizing remedies to increase effectiveness and reduce costs without sacrificing long-term protection. EPA developed its 2005 Post-Construction Completion Strategy to improve site operations and maintenance, remedy performance tracking, and IC implementation and tracking, and to reduce barriers to beneficial site reuse. Under this strategy, EPA is ensuring that five-year reviews are completed and any discrepancies identified in the reviews are addressed. Five-year reviews are periodic evaluations of the implementation and performance of a remedy to determine whether it remains protective of human health and the environment. EPA also continues to support the reuse of cleaned-up sites under its Return to Use Initiative. Sites identified as demonstration projects highlight how reuse dovetails with protection of human health and the environment and many of the post-construction topics discussed below. Throughout 2008, EPA has been working to identify the next round of demonstration projects and expects to announce them in 2009.

### Operation and Maintenance

The operation and maintenance (O&M) phase of the Superfund process is an important part of ensuring that a given remedy continues to perform as intended. Actions may range from maintaining engineering containment structures (e.g., landfill covers) to operating ground water remediation systems. Generally, O&M is the responsibility of the PRPs, states or other federal agencies, while EPA is responsible

for ensuring that the work is performed adequately. Most O&M and long-term monitoring is done by PRPs with EPA oversight.

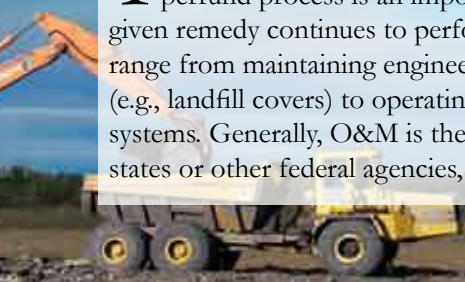
### Long-Term Response Actions

EPA retains funding and operating responsibility for Fund-financed ground water and surface water restoration systems for up to 10 years (called Long-Term Response Actions) prior to transferring these systems to the states for O&M. A restoration remedy is a remedial action with the objective of returning all or part of a ground water aquifer or surface water body to levels that allow for beneficial use. Ground water pump-and-treat and monitored natural attenuation (the process of monitoring the reduction of contaminants in soil or ground water through degradation or dissipation by natural physical, chemical, or biological processes) for aquifer restoration are the most common long-term response action remedies.

### Ground Water Remedy Optimization

Costs of long-term monitoring (LTM) for ground water during remediation represent a significant, persistent and growing burden for the private entities and government agencies responsible for environmental remediation projects. LTM optimization (LTMO) offers an opportunity to improve the cost-effectiveness of the LTM effort by assuring that monitoring achieves its objectives with an appropriate level of effort. The optimization may identify inadequacies in the monitoring program and recommend changes to protect against potential impacts to the public and the environment. LTMO also may reduce costs. This possibility of cost reduction is especially true as the remedy progresses, monitored parameters become more predictable, and the extent of contamination diminishes. Decreases in monitoring frequency, locations and analytical requirements can result in substantial cost savings, and such reductions can be implemented in ways to maintain adequate understanding of the site conditions to make site decisions.

In addition to LTMO, EPA developed the pilot Fund-lead pump-and-treat (P&T) optimization initiative as part of the FY 2000-FY 2001 Superfund Reforms Strategy (OSWER 9200.0-33, July 7, 2000). Optimization facilitates systematic review and modification of existing P&T systems to promote continuous improvement and to enhance overall remedy and cost-effectiveness. In the Superfund program,



optimization evaluations are accomplished using the Remediation System Evaluation (RSE) process, a tool developed by the U.S. Army Corps of Engineers.

There are fewer than 75 Superfund-financed P&T systems operating nationwide. By the end of FY 2008, the Superfund program had conducted an optimization evaluation at more than 50 sites, nearly all from this universe of Fund-financed P&T systems. EPA continues to encourage non-Fund-lead facilities to utilize the RSE process to ensure that remedies remain effective and, when appropriate, to reduce costs.

## Five-Year Reviews

EPA conducts regular evaluations, called five-year reviews, at Superfund sites where the cleanup results in waste left in place that limits site use. For example, EPA looks at a landfill to make sure the protective cover is not damaged and is working properly. EPA also reviews sites where the cleanup activity is still in progress after five years. In both cases, EPA evaluates the site to make sure the cleanup continues to protect people and the environment. During FY 2008, 221 five-year reviews were conducted at Superfund sites, including 26 at federal facilities.

## Institutional Controls

Institutional controls are non-engineered actions, such as administrative or legal controls, that prevent or reduce human exposure to contamination and/or protect the integrity of the remedy. ICs, including deed restrictions, zoning, local ordinances, and property easements, are a part of Superfund cleanups when some waste is left in place and there is a need to protect the public from potential exposure to remaining contaminants. Although EPA expects that treatment or engineering controls will be used to address dangerous wastes and that ground water will be returned to beneficial use whenever practicable, ICs also can play an important role in remedies. When more extensive revitalization and reuse of cleaned-up sites becomes a priority, ICs can become even more important for ensuring public health and safety.

At the Norwood PCBs site in Norwood, Massachusetts, for example, the final cleanup included excavation of soil and sediment from an adjacent brook and consolidation of this material under an asphalt cap. Remedial activities, including some provisions for site reuse, were completed in 2001. After several unsuccessful attempts to gain local approval for further redevelopment, the developer worked with EPA

Region 1, the State of Massachusetts, and other local stakeholders to resolve local concerns. The redevelopment plan for the site, approved in March 2008, used the existing cap as the primary parking area with new retail buildings situated around the cap's perimeter. EPA and the state also modified the ICs that govern redevelopment to identify a different set of restrictions and permitted uses based on location within the property.



*Norwood Site Before*



*Norwood Site After*

As an added benefit of this redevelopment, an additional 12 inches of gravel and four inches of asphalt were added to the thickness of the previous cap, thereby increasing its protectiveness. The developer also installed a vapor mitigation system under the retail buildings that is designed to remove vapors that could accumulate due to the building's proximity to ground water contamination. As the result of this collaboration, construction of a 56,000-square-foot retail center was completed in September 2008.





In 2008, Superfund developed a tracking system for ICs that lists controls already in place, or being put in place, at every Superfund site. The system includes identification of parties responsible for monitoring the controls, and the actual control instruments are copied into the system. This information is essential for determining when site redevelopment can begin and what kind of redevelopment is most appropriate. It is available on the site profiles contained on the Superfund Web site for those sites where EPA has quality-assured the information and made certain it can be reliably documented. All published ICs at Superfund sites also may be found at: [http://www.epa.gov/ictssw07/public/export/regionalReport/ALL\\_REGIONS\\_IC\\_REPORTS.HTM](http://www.epa.gov/ictssw07/public/export/regionalReport/ALL_REGIONS_IC_REPORTS.HTM).

## Sitewide Ready for Anticipated Use

An important outcome of site cleanup is to make properties available for productive use. EPA's Superfund redevelopment program assists communities in returning some of the nation's worst hazardous waste sites to safe and productive uses. While the Agency works to clean up Superfund sites in order to protect human health and the environment, EPA also works with communities and other partners to consider reasonably anticipated future land use in cleaning up Superfund sites. In addition to returning sites to industrial reuse, many Superfund sites are returned to use as parkland, agricultural land, residences, and commercial space. Land and water at some sites also are being reused for habitat and other ecologically beneficial uses.

To measure progress toward this outcome, the Superfund program adopted a new measure in FY 2007 to capture site progress beyond the construction completion milestone: Sitewide Ready for Anticipated Use (SWRAU). This measure tracks the number of NPL sites where the remedy construction is complete, cleanup goals for anticipated uses of the land have been met, and any necessary ICs are in place. In FY 2008, EPA ensured that 85 sites have all long-term protections in place necessary for anticipated reuse, bringing the cumulative total of sites ready for anticipated reuse to 343.

Ecological reuse sometimes can be incorporated into site remediation plans for Superfund sites. Returning contaminated sites to beneficial use not only allows local communities to reclaim lost land, but it also can lead to increased property values, a higher tax base, and protected open space. In addition, when local interests have a stake in the revitalized property, the chances are greater for continued productive use.

## Ecological Reuse Brings New Life to Many Sites

In FY 2008, EPA made significant progress in cleaning up land at several sites involving ecological reuse. All or portions of many Superfund sites, including the Uravan Mill site profiled earlier in this report, are or will be reused in ways that preserve greenspace, increase or improve habitat for plants and animals, or enhance the area's ecology. These varied efforts range in size and scope. Ecological reuse projects can have a beneficial effect on ecosystems, even when done on a small scale. Such reuse can also be cost-effective because the habitat serves as a natural remediation tool in the site cleanup process.



Before

At the 5.2-acre Walsh Road Landfill in Honey Brook, Pennsylvania, in Region 3, approximately 4,100 deep-rooting hybrid poplar trees and shallow-rooting plants were planted on top of an evaporative/transpirative (ET) cover system more than

two years ago. The thick root systems of these trees help absorb rainwater, thereby preventing excess water from accumulating on top of the cover and potentially damaging it. When planted, the trees were an average of four feet tall. Now, about 40 percent are over 20 feet tall, and the site is beginning to look like a young forest.

In Region 10, more than a century of mining and ore-processing activities in Idaho's Silver Valley contaminated the Coeur d'Alene River, its floodplain, and adjacent lateral lakes and wetlands with high concentrations of cadmium, lead, zinc, and other metals



After

in sediments. For decades, resident and migratory waterfowl frequently ingested lead-contaminated sediment and, as a result, suffered serious toxic effects or died. As part of the interim 2002 ROD to address the basin portion of the site, a private landowner and federal, state, and nonprofit parties came together to implement a cost-effective project to reduce waterfowl exposure to toxic levels of heavy metals. The U.S. Fish and Wildlife Service conducted weekly surveys in February and March 2008 and counted 3,814 ducks, geese, and swans in the area that was cleaned up—including 3,454 in one day alone. This project is the first of its kind in the basin, and represents an important step in addressing its ecological contamination issues.

EPA also recognizes that contaminated lands, including many Superfund sites, can be a good fit for siting clean and renewable energy facilities. Renewable energy is obtained from sources that can be continually replenished such as solar, wind, and biomass. Use of renewable energy reduces greenhouse gas emissions, decreases dependence on foreign oil, and provides domestic economic development opportunities. Alternative energy use of formerly contaminated sites remains a high priority for the reuse of Superfund sites throughout all Regions, and EPA made significant progress on several high-profile renewable energy projects in FY 2008.

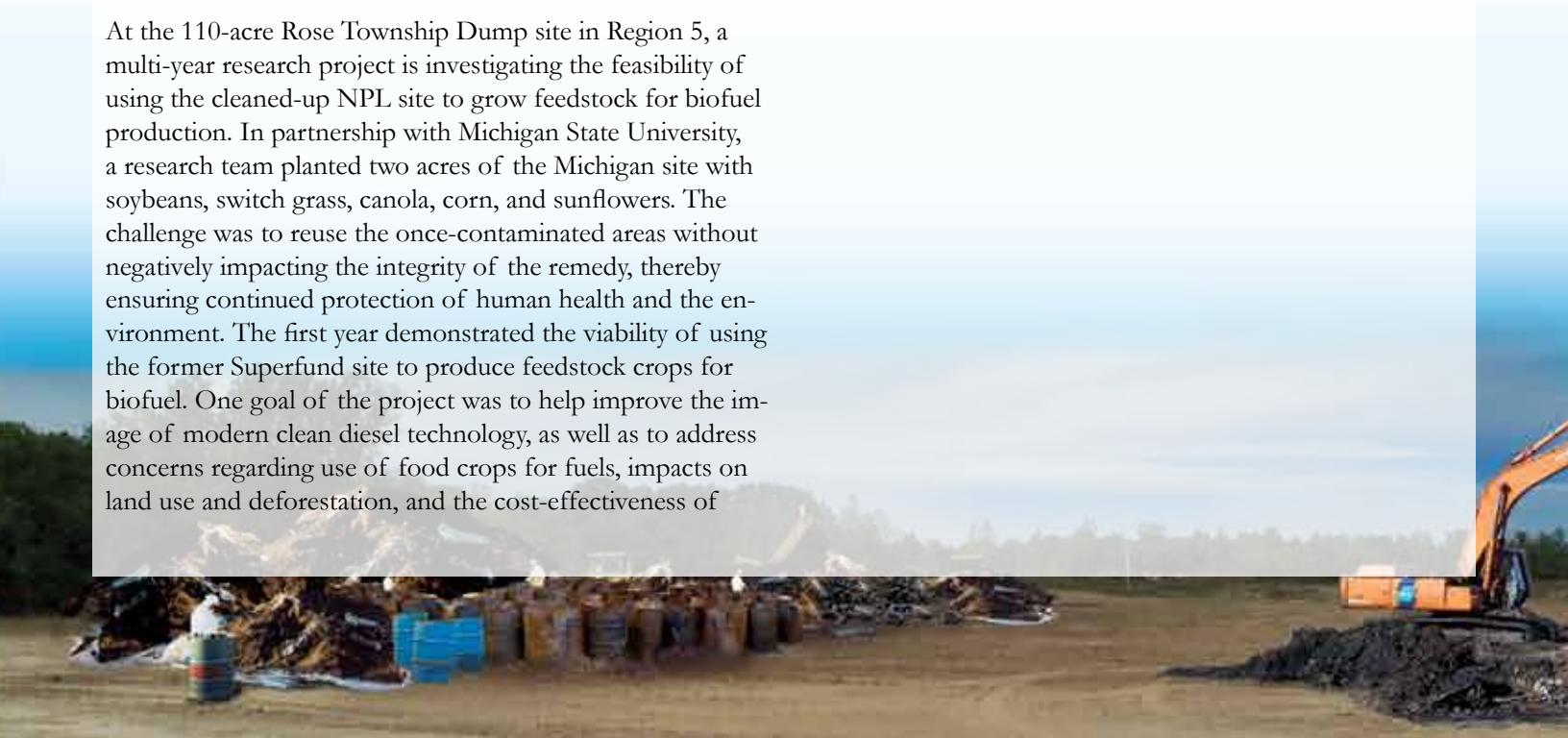
EPA Region 8, the Tri-County Public Health Department, the City and County of Denver, and the Colorado Department of Public Health and Environment worked closely with Waste Management, Inc., to enable reuse of the Lowry Landfill Superfund site near Denver, Colorado, for siting of a methane gas energy plant. The plant, which was dedicated in September 2008, will supply the energy needs for more than 3,000 Denver-area homes. It uses methane gas produced by decaying organic matter in the landfill to fuel generators capable of pumping 3.2 megawatts of electricity into the local power grid. Methane is considered one of the most potent contributors to climate change. When fully operational, the plant will remove approximately 5,000 tons of methane from the landfill annually, which is the equivalent of removing 22,000 cars from the road each year. At the same time, the site continues to achieve more than 98 percent destruction efficiency required by EPA air quality regulations. By working together, this partnership among federal, state, and local governments and the private sector has helped transform what was once an environmental liability into a facility that now gives back to the community.

At the 110-acre Rose Township Dump site in Region 5, a multi-year research project is investigating the feasibility of using the cleaned-up NPL site to grow feedstock for biofuel production. In partnership with Michigan State University, a research team planted two acres of the Michigan site with soybeans, switch grass, canola, corn, and sunflowers. The challenge was to reuse the once-contaminated areas without negatively impacting the integrity of the remedy, thereby ensuring continued protection of human health and the environment. The first year demonstrated the viability of using the former Superfund site to produce feedstock crops for biofuel. One goal of the project was to help improve the image of modern clean diesel technology, as well as to address concerns regarding use of food crops for fuels, impacts on land use and deforestation, and the cost-effectiveness of

renewable fuels when compared to gasoline. The project will continue to harvest the crops in 2009 and will then assess next steps. This project is a model for potential reuse of hundreds of Superfund and brownfield sites nationwide.

## NPL Deletion

One of the final steps in the post-construction phase is the deletion of a site from the NPL. Deletion of sites from the NPL may occur once all response actions are complete and all cleanup goals have been achieved. EPA has the responsibility for processing deletions with state concurrence. Deleted sites may still require five-year reviews to assess protectiveness. EPA also can delete portions of sites that meet deletion criteria. In 2008, nine sites were fully deleted from the NPL, and three were partially deleted.





## Looking Forward

The Superfund program is committed to meeting the challenges and maximizing the opportunities to protect human health and the environment by cleaning up the nation's worst hazardous waste sites. Looking forward to FY 2009 and beyond, EPA and its partners will continue to address the worst sites first, while maintaining protective remedies and balancing the need to complete response actions across the more than 1,200 sites still on the NPL.

Achieving construction completions at the most complex, technically challenging and costly Superfund sites will continue to be a significant challenge. Conducting faster, more efficient and effective cleanups remains our highest priority. Additional Superfund resources from the American Recovery and Reinvestment Act of 2009 (Recovery Act) provided an opportunity to start long-term cleanup projects and to accelerate ongoing construction projects. EPA anticipates that these resources will increase the speed with which some sites are returned to productive use while spurring investment in new or accelerated long-term construction projects. This investment will directly generate jobs and increase demand for construction materials.

While the Recovery Act funds provided an important and considerable source of additional funding, the program will continue to face resource challenges. For example, between 2003 and 2008, the program's remedial construction budget suffered a 37 percent decrease in buying power when adjusted for inflation.<sup>1</sup> As a result, EPA has had increasingly limited resources available to fund construction projects, and as occurred in FY 2008, the program is not always able to fund all new projects ready for construction. In addition, the program continues to manage the resource challenge presented by a relatively small number of complex, costly sites. In FY 2008, 17 sites accounted for nearly 57 percent of Superfund program construction and post construction obligations.

Addressing the cleanup of military munitions, enhancing green remediation strategies at federal properties, ramping down the BRAC program and accelerating property transfer efforts will be priorities in FY 2009 and beyond. EPA will continue working with DOE at some of its most challenging

sites. Cleanup milestones for complex sites, including the Hanford and Savannah River sites, may be adjusted. EPA also expects to enhance its property transfer partnership with the U.S. Coast Guard in FY 2009 by asking additional EPA regions with coastal properties to assist in this important effort.

On the enforcement side, maximizing PRP participation at Superfund sites by leveraging PRP resources and recovering costs remains a key mission. EPA will continue to hold polluters accountable through vigorous enforcement, thus ensuring that polluters, rather than the public, pay for Superfund cleanups.

EPA also will increase its emphasis on implementing Superfund remedies in environmentally sustainable ways, as appropriate under the statute and the NCP. Green remediation is a growing area of focus. The Superfund program will release a green remediation strategy in 2009. EPA anticipates that the strategy will foster these practices by identifying opportunities to help build green remediation capacities and create mechanisms to enable the use of green remediation practices.

The Superfund program's commitment to community involvement continues to grow. EPA has learned that early and meaningful citizen participation in Superfund decision-making can lead to better cleanups. EPA will continue to promote stakeholder involvement in every phase of the Superfund process, from site discovery through remedy selection, operation and maintenance, and beyond, to site reuse.

While Superfund money cannot be used to redevelop property, EPA continues to work with communities to promote beneficial reuse of sites. This collaboration allows local communities to reclaim lost land and can lead to increased property values, a higher tax base, and more protected open space. FY 2009 will be the third year that we have tracked our progress in redevelopment using the Site Wide Ready for Anticipated Use measure.

Working with our partners and with the involvement of affected communities, the Superfund program remains committed to the goal of cleaning up and returning contaminated lands to beneficial economic, ecological, and societal uses.

<sup>1</sup> This statistic was calculated using the U.S. Bureau of Labor Statistics' indices associated with estimating inflationary effects on the specialized field of heavy civil construction projects like those undertaken at Superfund sites. These indices differ from the Consumer Price Index (CPI), which is the index economists typically use to estimate general inflation. Had the CPI been used rather than those associated with the heavy civil construction projects, the decrease in buying would have been 19 percent for the same time period.

