Superfund:
In the Eye of the Storm

Center for Health, Environment & Justice

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The Center for Health, Environment & Justice (CHEJ) was founded in 1981 by Lois Gibbs, the community leader who led the successful fight to relocate over 800 families away from the Love Canal toxic waste dump in Niagara Falls, NY. CHEJ mentors a national movement to build healthier communities by empowering people to prevent harm caused by toxic chemical threats. CHEJ helps people by providing the tools, direction, and encouragement to advocate for safe and healthy communities. To date, CHEJ has assisted over 10,000 groups nationwide.

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Executive Summary

The federal Superfund program was created in 1980 in response to serious threats across the country from toxic waste sites such as the infamous Love Canal landfill in Niagara Falls, NY. Since then, the U.S. Environmental Protection Agency (EPA) has completed the cleanup of more than 1,000 of the nation's worst toxic waste sites, protecting hundreds of communities and drinking water supplies.

Today our nation faces a new threat to the health and safety of the American people—disruption and damage at Superfund sites caused by extreme weather conditions brought on by climate change. Hazardous waste sites can discharge and release large quantities of toxic substances when subject to flooding, tornados and hurricanes. The increased costs from cleanup and disruption caused by extreme weather events place a tremendous financial burden on the already financially ailing Superfund program.

Furthermore, some large Fortune 500 corporations are declaring bankruptcy to avoid the cost of cleaning up their site and walking away. American taxpayers are then left holding an enormous cleanup bill which is paid for by Superfund, a program funded entirely with taxpayer dollars.

There is only one solution–Congress must reinstate the polluter pays fees. Without corporate fees to replenish Superfund, there is simply not enough money to do the critical job of cleaning up hundreds of toxic waste sites. Given the poor economic climate, it is unfair to expect the American taxpayers to pay for 100% of the annual costs of this program. Corporate polluters must once again contribute to the costs of cleaning up these contaminated sites.

Hurricanes and Tornadoes Impact Superfund Sites

As the climate-change related extreme weather events are becoming more frequent and more intense, they are posing a significant threat to the future integrity of many Superfund sites. The strong winds of hurricanes and tornados can cause significant damage such as disrupting contaminated soils and moving waste barrels long distances, or damaging protective liners covering dangerous toxic waste dumps. Flooding can dislodge buried waste, displace chemicals stored above ground, and spread contamination in soil.

Extreme weather conditions that have impacted Superfund sites include Hurricanes Ike in 2008, Katrina and Rita in 2005, and Ivan in 2004; tornadoes in Oklahoma and Iowa in 2008 and related flooding in Iowa, Kansas, and Missouri in 2008.

In the Gulf Coast region alone, 56 Superfund sites were impacted by hurricanes from 2004 to 2008. This region is one of the most heavily industrialized and polluted areas in the nation. Hurricane force winds and floodwaters stirred up toxic chemicals, oil and pesticides and dispersed them across the region.

EPA staff have tested soil, sediment, air and water for chemicals, removed barrels of hazardous substances and investigated Superfund sites following extreme weather events such as hurricanes, tornados, and flooding. In the case of Hurricane Ike, for example, EPA used GPS tracking devices to identify over 18,000 containers suspected of containing chemicals that had been dispersed by the high winds and flood waters. The cost of these unplanned emergency response actions was a sizeable burden to an already financially ailing Superfund program.

Increased toxic contamination was found at several Superfund sites after hurricanes, tornados and floods, such as the following sites in Louisiana and Oklahoma.

Agriculture Street Landfill in New Orleans, LA

The flooding of this Superfund site, containing large amounts of toxic industrial wastes, raised many questions about the release of hazardous contaminants into the neighborhood after Hurricane Katrina. EPA tests found sediment on the landfill that was deposited by the receding flood waters that contained toxic chemicals, one of which was almost three times higher than the state cleanup standard.

Oklahoma Tar Creek Superfund Site

A tornado slammed into the mining town of Picher and one of the country's largest Superfund sites leveling over 200 homes and creating a major public health hazard as lead-contaminated mining waste piles were dispersed throughout the community. Within a few weeks, EPA spent $8 million to buyout and relocate 800 residents away from the toxic mess.

Corporate Bankruptcies Further Threaten Superfund

Another threat to the Superfund program is the eye of the economic storm, corporate bankruptcies, where polluting companies are allowed to avoid the costs of cleaning up their site by declaring bankruptcy. A potentially large number of sites could end up in Superfund if corporate polluters succeed in this exit strategy—declare bankruptcy and leave the American taxpayers to pay for the cleanup costs.

One 2007 study identified six companies connected to roughly 120 Superfund sites in 28 states that filed for bankruptcy in the last decade. Four of the companies, Bethlehem Steel Corp., Eagle-Picher Industries, Inc, Kaiser Aluminum Corp., and Polaroid Corp., avoided over half a billion dollars in cleanup costs by declaring bankruptcy.

Today, the American Smelting and Refining Company (Asarco) appears to be using the same exit strategy. The company filed for Chapter 11 reorganization starting a process that could result in the largest, most environmentally significant bankruptcy in America's history. The Asarco bankruptcy will impact an estimated 90 communities—many of them living with federal

Superfund sites—and claims total over $25.2 billion. As more and more businesses struggle in today's weak economy, there is the potential for more sites to end up in Superfund as polluters declare bankruptcy and leave the taxpayers to pay for the cleanup costs.

As Superfund is saddled with major costs from corporate bankruptcies, this in combination with the increased financial burden of cleaning up sites damaged by hurricanes, tornadoes and floods, poses significant new burdens for an already financially ailing program.

Funding Shortfall

Where will the money come from?

When Superfund was created in 1980 through the Comprehensive Environmental Response, Compensation and Liability Act, a Trust Fund was set up with approximately $1.6 billion to pay for the cleanup of any site where a polluter could not be located, was bankrupt, or refused to take action. Superfund was financed by fees from companies responsible for hazardous chemical releases, called polluter pays fees.

In 1995, Superfund had accumulated nearly $4 billion. However, the authorization to collect these fees sunset that year and was not reauthorized by Congress. Consequently, by 2003 the program ran out of money and the entire financial burden of paying for the cleanup of the worst toxic sites in America fell to the taxpayers.

For the past five years, Congress has annually allocated approximately $1.2 billion of general revenues—taxpayer's money— to Superfund since both Congress and President Bush failed to reinstate the fees.

The program's funding has been greatly reduced ever since the industry fees lapsed over a decade ago. The lack of polluter pays fees and the dependency on taxpayer revenues has led to a funding shortfall. In 2004, the House Energy and Commerce Committee found an estimated shortfall of $263 million dollars, and 19 sites were not cleaned up due to the lack of funds. In 2008, ten unfunded sites were not cleaned up.

Every year, the EPA makes roughly the same budget request and yet, from 2004 to 2008, Congress provided less than EPA requested. During this time, EPA requested an average of $1.69 billion and Congress appropriated an average of $1.26 billion, roughly 25% less than requested. A recent report by the Congressional Research Service suggests Congress could increase Superfund appropriations to address funding shortfalls, but notes “this could prove difficult in light of current interest in deficit reduction.”

Superfund Slowdown

The decreased funding has led to a dramatic reduction in the number of sites cleaned up.

- From 1997 to 2000, EPA averaged 87 completed cleanups a year.
- In 2001, the number of cleanups dropped drastically to 47 sites,
- In 2002, the number dropped to 42 sites.
- From 2003 to 2006, 40 sites were cleaned up each year.
- In 2007, only 24 sites were cleaned up.
- In 2008, 30 sites were cleaned up and 20 sites in 2009.

From 2001 to 2009, there has been more than a 50% decrease in the pace of site cleanups from the late 1990's.

The agency has also started fewer cleanups since the Trust Fund ran out of polluter pays fee money. There were three times fewer cleanups started in the six year period from 2001 to 2007, compared to the previous six years. At sites targeted for cleanup, there were delays and decisions made to use cheaper, less effective remedies at some sites, according to EPA officials.

Compounding the Superfund slowdown problem is the addition of new sites every year. In past surveys EPA identified over 47,000 potentially hazardous waste sites and continues to discover new sites. Today, approximately 1,681 known Superfund toxic waste sites are poisoning drinking water, land and air with chemicals that cause cancer, birth defects and other health problems. Twenty-five of these toxic sites are featured in the *Superfund Site Profiles* in Chapter 7.

It's Time to Refinance Superfund

Superfund faces new threats as more money is needed to clean up sites impacted by hurricanes, tornadoes and flooding, while bankrupt polluters continue to try to unload their cleanup costs on the program. At the same time, decreased funding and the Superfund slowdown have resulted in increased toxic exposures and health threats to communities across America. Stable and equitable funding is long overdue for this critically important pollution prevention program. It is time for Congress to reinstate the polluter pays fees. Without industry fees to replenish Superfund, there is simply not enough money to do the critical job of cleaning up hundreds of toxic waste sites and the American taxpayers are unfairly burdened by paying 100% of the annual costs.

Superfund was founded on the principle that those companies most closely associated with creating toxic waste sites and generating hazardous waste should bear the financial burden of cleaning them up. American taxpayers are unfairly bearing the full burden of paying for abandoned site cleanups. It is essential that industry fees are reinstated to replenish the ailing Superfund and get it back on the cleanup track. We can solve the problem by restoring the stable

funding source of polluter pays fees which were the financial backbone of Superfund for more than 20 years. They included assessments on crude oil, chemical feedstock, imported chemical derivatives and a corporate environmental income tax.

Except for President George W. Bush, the Superfund polluter pays fees have benefited from broad bipartisan presidential support. President Jimmy Carter signed the 1980 original law, President Ronald Reagan signed the 1986 law to expand the fees, and President George H.W. Bush signed a 1990 law renewing the fees. In 1995, President Clinton proposed Superfund fee reauthorization, but Congress did not approve it. President George W. Bush consistently opposed reinstatement of the polluter pays fees thus forcing American taxpayers to pay the bill when the program went bankrupt in 2003. Numerous bills have been introduced to reinstate Superfund's polluter pays fees and shift the cleanup expense burden back on polluting industries, but none have yet passed.

The Center for Health, Environment & Justice (CHEJ), Environment America, Sierra Club and hundreds of state and local environmental, health and community groups have waged a campaign to refinance Superfund over the years. CHEJ Executive Director Lois Gibbs was a leader of the successful community fight to relocate over 800 families away from the Love Canal toxic waste dump in Niagara Falls, NY which led to the creation of the Federal Superfund in 1980. After years of delay, Ms. Gibbs urges policymakers to take action on this critical environmental health problem.

"Congress should restore the hazardous waste fees on polluting industries and enable Superfund to move forward and respond to new toxic threats. The core principle of the Superfund program is that polluters, not taxpayers, should pay to clean up these deadly toxic waste sites. In addition to providing funding, the polluter pays principle creates a powerful disincentive against the reckless dumping of toxic waste."

Chapter One

Climate Change: A New Threat to Superfund Sites

Extreme weather events brought on by climate change is a significant threat to Superfund sites, the worst contaminated sites in the country. Hurricanes, tornados and intense heavy rains leading to flooding are occurring more often and with greater intensity and have dispersed toxic contamination at Superfund sites. As these events are becoming more frequent and more intense, climate-change related weather events are posing a significant threat to the future integrity of many Superfund toxic waste sites.

Extreme Weather Conditions

As the climate warms in response to increasing atmospheric greenhouse gases, escalating changes in extreme weather are expected. It has been well established in recent scientific reports that the intensity of these extreme events will increase in the future.[1,2] For instance, the International Panel on Climate Change (IPCC), a preeminent scientific research group on climate change comprised of the world's leading scientists, has issued a series of reports on the increase of climate change-related weather events.[3] The most recent report concluded that "warming of the climate is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea levels."[4] Their reports join many others in demonstrating there is a scientific consensus that the earth is warming primarily as a result of emissions from human activities. This global warming will lead to serious, potentially catastrophic impacts including increased flooding, drought, and hurricane intensity.[5,6]

There is growing scientific evidence that a warming world will be accompanied by changes in the intensity, duration, frequency, and geographic extent of weather and climate extremes.[7] This is expected to lead to an increase in areas affected by drought, more frequent and intense heavy downpours with a higher total rainfall, more frequent heat waves and warm spells, and more intense hurricanes and tornados.[8,9] In recent decades, there is already evidence that extreme rainfall has increased in some regions, leading to an increase in flooding.[10,11] For example, many believe the heavy rain and subsequent flooding in the Midwest in June 2008 was a climate change-related extreme weather event. The flooding there has been compared to intense rain and flooding that occurred in 1993 which were thought to be a once-in-500-years event.[12]

These changes in extreme weather will have a significant impact on all sectors of the economy and the environment—including Superfund toxic contaminated sites—and will impact people's health and well-being. Climate change-related extreme weather conditions cause property damage, injury, loss of life and threaten the existence of some species and ecosystems. From 1980 to 2006, there were 70 weather-related disasters in the United States with overall damages exceeding $1 billion.[13] Such impacts are among the most serious challenges to society in coping with a changing climate. However, it may be that the more insidious impacts are harder to fully

ascertain and may pose much greater risks, such as the long-term impacts of flooding hazardous waste sites and spreading highly toxic chemicals throughout a community.

Despite the growing evidence, it is difficult to fully determine if a specific extreme weather event is due to a specific cause, such as increasing greenhouse gases. There are two reasons for this: 1) extreme weather events usually are caused by a combination of factors; and 2) a wide range of extreme events are a normal occurrence even in an unchanging climate.[14] This is because some factors, such as sea surface temperatures, may be strongly affected by human activities, while others may not. Science is just not able to conclusively detect the influence of a human activity on a specific extreme weather event. Nevertheless, the scientific analysis of global warming over the past century strongly suggests it is likely that extreme weather events, such as heat waves, have increased due to greenhouse warming, while the likelihood of others events, such as frost or extremely cold nights, has decreased.[15]

Atlantic Hurricanes

One example of escalating extreme weather conditions is the increased intensity of hurricanes. An analysis of the latest scientific research by the U.S. Climate Change Science Program, working with the National Oceanic and Atmospheric Administration, drew the following conclusions about hurricanes.

■ Since approximately 1970, the Atlantic Ocean tropical storms and hurricane destruction potential has increased substantially. For instance, over the past two decades, there has been an increase in extreme wave height characteristics associated with more frequent and intense hurricanes.

■ It is very likely that the greenhouse gas increases linked to human activities have contributed to increased sea surface temperatures in the hurricane formation region. Since there is a strong connection between Atlantic tropical sea surface temperatures and Atlantic hurricane activity, this suggests a human contribution to recent hurricane activity.

■ For North Atlantic and North Pacific hurricanes, it is likely that rainfall, wind speeds, and storm surge levels will increase in response to human-caused global warming.[16]

Hurricane activity models under climate change scenarios predict that tropical Atlantic sea surface temperatures will warm dramatically during the 21st century with temperatures in the atmosphere closest to the surface warming even more so.[17] These hurricane models indicate that while Atlantic hurricanes and tropical storms will be substantially reduced in number, they will be stronger with significantly more intense rainfall.[18]

Chapter Two
Hurricanes Impacting Superfund Sites

The increased intensity of hurricanes in the last few years is having a substantial impact on the federal Superfund toxic waste site cleanup program and poses major challenges for the federal Environmental Protection Agency (EPA) which runs the program. In the Gulf Coast region alone, 56 Superfund sites were impacted by hurricanes from 2004 to 2008, as shown in Table 1.

Texas and Louisiana have been hit the hardest. This region is one of the most heavily industrialized and polluted areas in the nation, and contains thousands of facilities that store, produce and release highly toxic substances including hundreds of chemical plants and petrochemical facilities.[19] Hurricane forces and floodwaters have stirred up industrial and household toxic chemicals, oil and pesticides and dispersed them across the region. The full extent of these toxic releases will take years to understand and even longer to clean up.[20] The spread of toxic contamination from hurricane-impacted Superfund sites requires testing and cleanup, but there is very little money allocated in EPA's budget to address such weather-related events.

Table 1
Number of Superfund Sites in Gulf Area Impacted by Hurricanes[21,22,23]

State	Number of Sites	Hurricane
Alabama	6	Katrina
Florida	2	Ivan
Louisiana	17	Katrina, Rita and Ike
Mississippi	3	Katrina
Texas	28	Katrina, Rita and Ike
TOTAL	**56**	

Hurricanes Katrina and Rita

In the late summer and early fall of 2005, two substantial hurricanes hit the Gulf Coast region. In August, Hurricane Katrina, a Category 4 hurricane, affected more than a half million people living in a 90,000 square mile radius in Louisiana, Mississippi and Alabama. One month later, the area was hit by a second hurricane, Rita, a Category 3 hurricane, which landed near the border between Texas and Louisiana. The devastation caused by this one-two hurricane punch resulted in the largest natural disaster relief and recovery operation in United States history.[24] Hurricane Katrina brought intense rains, 125 mph winds and a storm surge of over 20 feet led

to the breech of the levees protecting the city of New Orleans, allowing Lake Pontchartrain floodwaters to inundate 80% of the city.

Dangerous levels of toxic contaminants were found in floodwaters and in the sediment deposited in flooded areas, according to government officials.[25] For instance, debris from destroyed buildings and remaining houses contained the carcinogen asbestos, as well as lead and other toxic substances used in building materials. Oil and gasoline, containing the cancer-causing agent benzene, were released from gas stations and damaged cars and boats, while oil refinery spills mixed with floodwaters and were dispersed over wide regions. In Mississippi and Alabama alone, 450 chemical spills were reported.[26] A ruptured tank of anyhydrous ammonia at a fertilizer manufacturing plant in Mississippi released this lethal gas into the surrounding neighborhood.[27] All told, hundreds of chemical industrial facilities, hazardous waste storage areas and Superfund sites were hit hard, suffering varying degrees of damage.[28]

The Environmental Protection Agency plays a major role in responding to national emergencies. Under the National Response Plan, EPA is the lead federal agency for oil and hazardous material releases, and provides support for other emergency support functions, including public works and engineering. Specifically, EPA is responsible for responding to national emergencies that threaten public health or the environment caused by the actual or potential release of hazardous substances. This response includes testing the quality of floodwaters, sediments, and air, and assisting with the restoration of the drinking water and waste water systems.[29]

In response to Hurricane Katrina, EPA led an environmental response effort and collected over 4,000 water samples and over 1,800 sediment or soil samples.[30,31] The EPA and the U.S. Coast Guard conducted over 130 emergency response actions including five major oil spills in the New Orleans area resulting in releases of over 8 million gallons of oil.[32] Testing was done at 24 Superfund sites impacted by Hurricane Katrina. The agency compared post-hurricane data either to previous test results at a site, or to Louisiana's cleanup standards, or to preliminary remediation goals used by Alabama and Mississippi.[33] Typically, only two samples were taken at each Superfund site to evaluate whether it was impacted by the hurricanes, though there were a few exceptions.

Some test results showed elevated levels of toxic contaminants, but overall, too few samples were collected at each Superfund site. As a result, EPA's testing was extremely limited and was inadequate to fully determine if any chemicals at these sites had been disturbed by the hurricanes. Despite the limited testing, the agency concluded that most of the Superfund sites were not affected.[34] However, without more comprehensive testing, it may be that unknown levels of contamination have been dispersed from these sites and remain unrecognized. Such contamination, even if the concentrations were low, would still pose public health threats to people moving back into these areas.

In spite of inadequate sampling, increased toxic contamination was found at several Superfund

sites after the hurricanes, including eight sites in Louisiana, three sites in Texas, and one each in Alabama and Mississippi (See Table 2). For instance, the landfill cap was damaged and needed to be repaired at the Bailey Waste Disposal site in Bridge City, Texas. At two other Texas sites, newly discovered contamination was included into ongoing cleanup efforts. Three toxic sites in Louisiana were completely flooded: Agriculture Street Landfill in New Orleans; Southern Shipbuilding site in Slidell; and the Madisonville Creosote Works site in Madisonville. Surprisingly, with very little testing conducted, EPA concluded that the public's health was not at risk in these three communities, although the agency is requiring continuous monitoring at each site.[35]

Table 2
Superfund Sites with Increased Contamination
After Hurricanes Katrina & Rita[36]

State Site Name/ Location	Contamination Summary
Louisiana	
Bayou Bonfouca, Slidell	Naphthalene, fluorine and acenaphthene in groundwater.
Bayou Sorrel, Iberville Parish	Arsenic above drinking water standard; Four organic chemicals present.
Cen. Wood Pres., E. Felicia Parish	Arsenic levels in soil exceeded residential cleanup level.
Delatte Metals, Tangipahoa Parish	Increased concentrations of arsenic, lead, manganese, and nickel in groundwater.
Dutchtown Trt. Pl., Ascension Par.	Increased ethyl benzene levels in groundwater.
Mallard Bay Ldg., Grd. Cherniere	Organic chemicals found in soil.
PAB Oil, Abbeville	Arsenic and chromium found in groundwater.
Texas	
Bailey Waste Disposal, Bridge City	Site cap eroded.
Gulfco Marine, Freeport	Organic chemicals and metals found in soil.
Palmer Barge, Port Arthur	Elevated benzene and MTBE found in groundwater.
Alabama	
Redwing Carriers, Saraland	PAHs, DDE and dieldrin found in sediment.
Mississippi	
Picayune Wood Trtg, Picayune	PAH in sediment exceeded preliminary remediation goals.

A Toxic Mess: New Orleans's Superfund Site and Oil Refinery

The flooding of New Orleans's Agriculture Street Landfill raised a great deal of concern. The Superfund site is located halfway between the French Quarter and Lake Pontchartrain. For nearly a century, municipal garbage and industrial wastes containing lead, arsenic, dioxins, cancer-causing hydrocarbons and pesticides, including the banned DDT, were dumped into this landfill. The 95 acre site eventually was "cleaned up" under Federal Superfund with the dump covered by

a special liner and two feet of clean soil.[37]
Community leaders were very concerned that hurricane-related flooding released substantial amounts of toxic waste from the site into the surrounding neighborhoods.[38] To address these concerns, EPA initially collected 74 soil samples at 23 locations on the site. The samples were collected above the geotextile liner, which was installed 1 to 2 feet below the surface soil as part of the cleanup. The agency decided to only test for lead, claiming that it was the primary contaminant addressed by the site cleanup. The highest concentration of lead found was 363 parts per million (ppm) and the average concentration was 15 ppm.[29] Tests taken later by EPA in other parts of the city found lead levels as high as 3,960 ppm and that 8 of 10 soil samples had exceeded the state standard.[40] Lead was also found in surface water at levels as high as 846 parts per billion (ppb)—far above the federal drinking water standard of 15 ppb.[41] Lead is a well recognized reproductive and developmental poison. Exposure can result in reduced fertility, fetal developmental delay, prematurity, and lasting deficits in concentration, learning and behavior among children exposed *in utero*.[42]

EPA's testing did not include other chemicals present in the old landfill that are more soluble in water than lead, and that would have been more likely to migrate with the flooding waters. Despite this limited testing, the agency concluded that their test results indicated flooding did not cause any upward movement of lead through the landfill cover.[43]

The agency also tested sediment deposited by flooding onto the surface of the old landfill and discovered it contained levels of benzo(a)pyrene (BaP) that exceeded Louisiana state cleanup standards. The highest level of BaP found was 810 parts per billion (ppb)—almost three times higher than the state standard.[44] BaP is a probable human carcinogen and has caused reproductive effects including birth defects and low birth weight in animals.[45] Arsenic and lead were also found in the sediment, though the levels were less than the state's standards. The highest level of arsenic found was 1.380 ppm; the highest level of lead found was 3.1 ppm.[46]

It is not clear why the agency's testing at the Agriculture Street landfill was limited to heavy metals such as lead and arsenic and to polycyclic aromatic hydrocarbons such as BaP. Both of these chemical groups have limited solubility in water and would not have been expected to move much in the floodwaters. Because EPA's testing was so limited, there is no clear picture of the potential contamination caused by the hurricanes. As a result, there may be unknown levels of contamination that were dispersed by the hurricanes. Making matters worst, the EPA has decided not to clean up the lead and arsenic contamination and to leave the BaP contamination to be dealt with by Housing Authority of New Orleans as part of a plan to address damaged townhouses in the area.[47] The question remains what risks these low levels and unknown concentrations pose to unknowing people who move back into this area.

Other areas of New Orleans were badly flooded as well, including the Murphy Oil refinery in St. Bernard Parish. An above ground storage tank with 65,000 barrels of mixed crude oil was dislodged and damaged by the surging storm water. Approximately 25,000 barrels—over 1 million gallons of oil—was released impacting approximately 1,700 homes in the

neighborhood.[48] Residential properties were found to be polluted with arsenic, polycyclic aromatic hydrocarbons (PAHs), diesel and oil above the state's cleanup standards. The EPA dismissed these findings and took no action because they determined that the levels of contamination were "acceptable" since they did not exceed a 1 in 10,000 cancer death risk value.[49] This cancer risk is 100 times greater than the often used 1-in-a-million cancer risk value. People returning to this area will be exposed to chemicals that pose serious cancer risks that exceed the 1-in-a-million risk level.

In the weeks after the hurricane, EPA Superfund staff helped state officials conduct hundreds of water and soil tests for toxic chemicals, contained oil spills and removed barrels of hazardous substances. The costs of these unplanned investigations and emergency response actions were a costly burden to an already financially-ailing Superfund program. Unfortunately, the limited scope of EPA's testing means that communities may have unknown amounts of toxic contamination released from sites and facilities in need of cleanup—and the full extent of these public health risks will take years to understand.

Hurricane Ike

Hurricane Ike had a significant impact on public health as toxic industrial waste, raw sewage and oil spills found their way into public water supplies and polluted soil. In September 2008, this Category 2 storm carried winds up to 110 mph, and hit a region with over 200 facilities using toxic chemicals and two heavily polluted Superfund sites, MOTCO and Texas Tin Company, resulting in over 300 recorded spills.[50,51]

Hurricane Ike's high winds and massive waves destroyed oil platforms, tossed storage tanks and punctured pipelines. At least a half million gallons of crude oil spilled into the Gulf of Mexico and the marshes, bayous and bays of Louisiana and Texas, according to Associated Press's federal data analysis.[52] According to the Minerals Management Service, which oversees oil production in federal offshore waters, the hurricane destroyed at least 52 oil platforms in the Gulf of Mexico and thirty-two more were severely damaged. But there was only one confirmed report of an oil spill—a leak of 8,400 gallons of oil which left no trace because it dissipated with the winds and water currents.[53]

Searching for Thousands of Toxic Drums

Community leaders were very concerned about the polluted sludge left in homes and on roadways after the floodwaters receded. This "toxic soup" of household hazardous chemicals, lead-based paints, gasoline, sewage and construction debris laced with asbestos and lead, created a dangerous mixture posing serious health risks.[54] Containers of toxic chemicals and gasoline, many in 55-gallon drums, were found strewn throughout the impacted region. State and federal officials used GPS tracking devices to find over 18,000 of the containers dispersed by the high winds and floodwaters. Once located, officials then had to test them to see if the contents were hazardous.[55] These investigations placed a new financial burden on EPA's Superfund program as

federal officials' staff time and testing budgets increased to respond to the emergency.

Hurricane Ike also caused significant air pollution from chemical plants and refineries along the coast. As the storm approached, most facilities shut down as a precautionary measure, burning off hundreds of thousands of pounds of toxic chemicals.[56] In some cases, power failures sent chemicals, like ammonia, directly into the air.[57]

Government officials identified 228 sites potentially poisoned with toxic industrial chemicals, gasoline and other contaminants from Texas's greater Houston area to Louisiana's Lake Charles. One assessment noted that none of the reported spills were considered "major" by local authorities, even though the process of identifying and prioritizing environmental hazards had just begun.[58] The Texas Commission on Environmental Quality identified 13 refineries and 47 chemical facilities that needed to be evaluated, all of which shut down before the storm hit.[59] Federal officials identified 28 Superfund sites that needed to be evaluated.[60] Only seven of these sites were inspected for damage though none was found according to state reports.[61] Due to inadequate information about these investigations and their results, it is too early to determine the true impact of Hurricane Ike on these sites.

Hurricane Ivan

In September 2004, Hurricane Ivan passed through the Escambia Treating Company Superfund Site in Pensacola, Florida. This Category 3 hurricane with 130 mile per hour winds knocked down trees and fences at the site, and a plastic cover over a massive pile of contaminated dirt was damaged.[62]

In 1991, the EPA conducted an emergency action at the Escambia Superfund site, gathering 344,250 tons of dirt polluted with arsenic, lead, dioxin and other chemicals and placing it in a huge pile called "Mt Dioxin" by local residents. Francine Ishmael, President of Citizens Against Toxic Exposure states, "The community suffers from high rates of cancer, numerous chronic disorders and birth defects linked to chemical exposure." She recalls that for years residents unknowingly used contaminated well water for drinking as well as irrigation of their gardens and fruit trees, and ate produce tainted by airborne contaminants as well. "People have had to bear far too much toxic exposure already," Ishmael declares. "EPA must offer real cleanup and protection." The agency only covered this huge pile of poisoned dirt with a plastic tarp to prevent it from spreading throughout the adjacent community where over 450 families lived. But, EPA's inspection of the tarp after the 2004 hurricane found it to be "ruffled" with some areas beginning to "harden" and lose their elasticity. The inspection report stated that "the danger exists that the ruffles in the liner if compressed by foot or vehicular traffic, will become hardened creases, which would have a greater risk of failure and be more difficult to repair."[63] The cover's condition was discovered to be in poor shape. EPA's report found "Many outer seams in the double-seamed joints are failing. The creases are visible on the vehicle ramp..."[64] Community residents believe significant quantities of dioxin-contaminated dirt escaped from under the plastic

tarp during the hurricane, but EPA discounted this common-sense belief. Other hurricanes have also impacted the site. In 2005, Hurricane Dennis caused minor damage at the Escambia site, and in 2002 Tropical Storm Hanna required repairs to the tarp.[65]

Hurricane Ivan also caused damage at the American Creosote Works Superfund site, located a few miles from the Pensacola Escambia site. The hurricane "took out a building" that housed the groundwater pumping station used to treat water at the site and the system was shut down for over a year.[66]

Hurricane Floyd

In 1999, Hurricane Floyd dumped seven inches of rain over a 24-hour period in southeastern Pennsylvania. The resulting floodwaters carried toxic contaminants from an industrial area that included two landfills into an adjacent residential neighborhood located in a floodplain. The pollutants identified included volatile organic compounds, pesticides, PCBs and heavy metals. Of the 20 chemical compounds which EPA considers the most serious health threats, 16 of them were found at elevated levels.[67] Although EPA investigated concerns raised by residents about contamination coming from the site,[68] it wasn't until the Hurricane Floyd flooding spread the contaminants into the neighborhood that the agency took action and declared the Lower Darby Creek area a Superfund site.[69,70]

Hurricane Floyd also dumped 17 inches of rain over 24 hours on a wood treatment site in Hollywood, Maryland affecting a Superfund cleanup operation.[71] The Southern Maryland Wood Treating Site produced creosote and pentachlorophenol (PCP) until it went bankrupt in 1978. Both creosote and PCP can cause cancer and liver damage.[72,73] Liquid waste from the plant was stored in six unlined lagoons on the site that leaked contaminated soil and groundwater. EPA was in the midst of cleanup operations when the storm hit, flooding lagoons and filling one pit with approximately 2 million gallons of contaminated waste water. The agency was forced to amend their cleanup plan and allocate more funds to remove and treat the waste water and thousands of tons of contaminated soil.

Numerous Superfund sites have been impacted by hurricanes. EPA has been the lead agency responsible for testing conducted at federal Superfund sites to investigate any damage caused by the hurricanes. Unfortunately, the agency's testing has been very limited, resulting in a poor understanding of the extent of contamination caused by these extreme weather events. The costs of these unanticipated investigations and emergency response actions add a significant burden to an underfunded Superfund program. Without the resources to conduct comprehensive testing, the impact of hurricanes and other extreme weather events cannot be properly evaluated. Consequently, there may be unknown levels of toxic contamination dispersed from these sites which remain unrecognized. Such contamination, even if the concentrations were low, would still pose public health threats to unknowing people who move back into these areas.

Chapter Three
Tornadoes Impacting Superfund Sites

Storms and extreme rainfall have become more frequent and more intense in recent years. The extent to which these storms will spawn tornadoes is not yet clear.[75] A National Oceanic and Atmospheric Administration meteorologist involved in climate change research states that, [The] "basic thought is [that] there's more energy in the atmosphere, more water vapor evaporating, and greater likelihood for stronger heating events that lead to stronger thunderstorms—super cells that can lead to tornado production."[76] The International Panel on Climate Change has concluded that at this time, "there is insufficient evidence to determine whether trends exist in... small scale phenomena such as tornadoes, hail, lightning and dust storms."[77] There is, however, plenty of anecdotal information documenting the increased frequency and intensity of tornadoes.[78,79] Several of these extreme weather events have affected Superfund toxic waste sites.

Tar Creek Site in Picher, Oklahoma

On May 10, 2008, a serious Category EF 4 tornado swept across Oklahoma and slammed into the mining town of Picher located in the heart of one of the country's largest Superfund sites, the Tar Creek Site.[80] The tornado hit Picher with devastating results, leveling over 200 homes and leaving most of the 800 residents homeless.[81]

Residents were already living with the legacy of lead dust from massive piles of mining waste called "chat," left behind by the mining companies. These "chat" waste piles are enormous, covering acres of land surrounding four towns at the center of which is Picher. The chat piles—some of which are 200 feet tall—contain lead, zinc and other metals. The metals have seeped into and polluted groundwater, ponds and lakes, many of which were still used by children for swimming.[82,83] Sadly, a health investigation found the children of Picher have elevated levels of lead in their bodies.[84] One study found 62.5% of Picher children under the age of 6 have lead poisoning.[85] The children in this study had blood lead levels that exceeded the 10 microgram per deciliter (ug/dl) value defined by the federal Centers for Disease Control as lead poisoning. Lead is a well recognized reproductive and developmental poison. Exposure can result in reduced fertility, fetal developmental delay, prematurity, and lasting deficits in concentration, learning and behavior among children exposed in utero.[86]

In 2004, more than $40 million was spent by the Federal Superfund program and the state in a cleanup. A voluntary house buy-out for over 100 families was funded by the state. Those who stayed behind were there when the tornado hit the town four years later. "Disaster at a disaster," commented Rebecca Jim, Executive Director of the community group, Local Environmental Action Demanded Agency (LEAD Agency). "Both natural and man-made disasters at Tar Creek will continue to have health effects on generations to come,"

An inspection immediately after the tornado found "immense damage," such as large chunks of contaminated chat from piles had blown away.[87] The EPA first set up a mobile command center to determine how much lead-contaminated dust was in the community's air. Federal officials then realized they needed to respond to a public health hazard from the spread of lead-contaminated chat throughout the town.[88,89] Less than two weeks later, the EPA announced it was providing an additional $8 million to expedite the buyout and relocation of the remaining 800 Picher residents.[90] EPA is developing a cleanup plan for the remaining pollution, including cleaning up Tar Creek so it does not carry more metals downstream. "As the largest, most hazardous and longest lasting site on the NPL, the area for the most part still looks like it did all those years ago. That is a crime perpetuated by the government on the people here, and genocide for the ten tribes that exist in or downstream from it," said Earl Hatley, LEAD Agency's Grand Riverkeeper, a member of the Waterkeeper Alliance.

Superfund Sites in Iowa

On May 25, 2008, a severe Category EF-5 tornado tore through the southern portion of the city of Parkersburg, Iowa. On its way, it also hit New Hartford and Dunkerton damaging or destroying every building in its path. The storm that spawned this tornado brought heavy rains and wind gusts up to 70 mph to the Des Moines area, about 80 miles to the southwest.[91]

The federal EPA's response was to monitor the city's air for particulate matter and asbestos. Air monitors were strategically placed by the Parkersburg cleanup debris piles, as well as in the cities of Cedar Falls, Cedar Rapids, Fort Madison, Iowa City, Keokuk, Montrose, Oakville, and Waterloo. According to EPA, results showed concentrations of particulate matter below federal air quality standards and no asbestos was detected.[92]

There were also intense rains throughout the Midwest at the time this tornado struck. The EPA Region 7 staff joined the Iowa Department of Natural Resources to identify and retrieve "orphan" drums, tanks or containers that might contain toxic waste or propane that were dispersed by the floodwaters.[93] Officials also inspected 47 Superfund sites located in the flood zone.[94] Three Superfund sites were significantly impacted by the flooding: the Dico facility in Des Moines, Electro-Coatings in Cedar Rapids and the Red Oak Landfill in Red Oak, Iowa. According to EPA, environmental samples collected from the three sites found no compounds in soil, sediment or surface water "at levels of health concern."[95] The agency provided the public with none of the test results used to reach this conclusion. Consequently, it is not clear how extensive the agency's testing was and whether low levels of contamination still remain unrecognized posing health threats to people.

Only six floodwater samples were collected in Hamburg, Des Moines, Cedar Rapids, Iowa City, Burlington and Columbus Junction, Iowa, almost a month after the tornado on June 19th. The samples were tested for pesticides, metals, total petroleum hydrocarbons (oil, diesel, and

gasoline), and volatile organic compounds (VOCs). Metals, a few pesticides and total petroleum hydrocarbons were found in the floodwaters. EPA again determined that none were found at levels that posed a "significant human health risk."[96] The EPA did not, however, collect and analyze any sediment samples. This is surprising since many toxic substances dispersed from contaminated sites or other sources by the flooding would have settled over the course of that month in the sediment. Consequently, it is not known if low levels of contamination remain unrecognized in the once-flooded areas.

Flooding Superfund Sites

In 1997, a severe flood at Milo Creek, Idaho washed toxic mining waste from the Bunker Hill Mine & Metallurgical Complex Superfund site onto 50 homes.[97] The waste contained numerous heavy metals including lead, cadmium and arsenic.[98] All three metals are carcinogens.[99] Cadmium can cause kidney damage.[100] As mentioned earlier, lead is a well recognized reproductive and developmental poison.[101] The federal Superfund program removed the toxic waste from the yards and homes, and stabilized the Milo Creek channel to prevent future floods from dumping more toxic mining waste into downstream resident's homes.[102]

The Gurley Pit Superfund site is situated in the floodplain of 15 Mile Bayou in northeast Arkansas. When 15 Mile Bayou flooded in 1980, water surged into the Gurley Pit site, releasing 500,000 gallons of waste motor oil, PCBs and toxic sediment containing heavy metals into people's homes and farmland.[103] PCBs can cause cancer, liver and immune damage, behavioral alterations and impaired reproduction.[104] The Superfund program cleaned up the off-site pollution.[105]

In summary, a number of Superfund sites have been impacted by tornados and related extreme weather events. The testing conducted by EPA at these sites has been very limited, resulting in a poor understanding of the extent of contamination caused by these extreme weather events. The costs of these tests also saddle Superfund with additional expenses when it does not have the funds to adequately address sites already in the program. Without the resources to conduct comprehensive testing, the impact of tornados and other extreme weather events cannot be properly evaluated. Consequently, there may be unknown levels of toxic contamination dispersed from these sites which remain unrecognized and could pose public health threats.

Chapter Four
Corporate Bankruptcies Threaten Superfund

Another threat to the financial stability of the Superfund program is corporate bankruptcies where polluting companies are allowed to avoid the costs of cleaning up their Superfund sites by declaring bankruptcy. A potentially large number of sites could end up in Superfund if corporate polluters succeed in a new exit strategy—declare bankruptcy and leave the government to pay for the cleanup costs.[106] More and more polluting companies have come to realize they can avoid millions of dollars in environmental liabilities by declaring bankruptcy and simply walking away from their toxic mess.

This is exactly what the American Smelting and Refining Company (Asarco) appears to be doing. In 2005, Asarco filed for Chapter 11 reorganization starting a process that could result in the largest, most environmentally significant bankruptcy in America's history. The Asarco bankruptcy will impact an estimated 90 communities where there are 75 contaminated sites in 21 states, including 20 Superfund sites, and 95,000 asbestosis claimants, and numerous other claimants seeking redress for illnesses and other damages, as well as the federal government.[107]

When Asarco declared bankruptcy, it cited environmental liabilities as a primary cause. The federal Government Accountability Office (GAO) warned that the bankruptcy could set a precedent for companies seeking to shift the cost of their environmental liabilities to the taxpayers. The GAO report stated "Federal bankruptcy law, like corporate law, presents … significant challenges to EPA's efforts to hold bankrupt and other financially distressed businesses responsible."[108]

For instance, in Ruston, Washington, U.S. Senator Maria Cantwell stood with community residents where a soil cleanup to address contamination from a century of Asarco's toxic emissions temporarily came to a halt with the bankruptcy filing. Describing Asarco's conduct as "abuse," Senator Cantwell said the GAO report "confirmed [that]…corporate polluters are using bankruptcy and other corporate gimmicks to get out of their environmental cleanup obligations. Corporate polluters are contaminating our backyards and water, and then sticking us with the mess and the cleanup bill."[109]

By 2007, claims in the Asarco bankruptcy totaled over $25.2 billion.[110] The result of the bankruptcy proceedings may burden Superfund excessively with the cleanup costs of many Asarco sites, at a rate that could dwarf the average annual Superfund budget of $1.2 billion. Already, state by state, site by site, the future of environmental health is being negotiated—at a discount rate—as the company lacks the resources to complete cleanups or provide medical care to injured claimants.

Asarco's Toxic Legacy in Texas

The Asarco smelter in El Paso, Texas, provides a grim example of the consequences of the company's hazardous emissions. The plant opened in 1899 as a lead smelter and closed in 1999 as a copper smelter. Since 2002, Asarco has pressed for an air permit to reopen the plant triggering intense controversy and opposition in the community.[111] In the early 1970's, lead poisoning was discovered in children living in Smeltertown, a Mexican-American community located downwind from the Asarco smelter stack.[112] The city sued Asarco, which set up a trust fund for the lead-impacted children, and Smeltertown was demolished.

After a national investigation, EPA and Asarco negotiated a consent decree in 1998 to address company violations. This was followed by another consent decree on illegal shipping and incineration of hazardous waste in Asarco's El Paso and East Helena, Montana smelters. After El Paso community activists discovered the violations and released the information to the New York Times, Texas Congressional Representative Sylvestre Reyes requested a GAO investigation.[113] The GAO report confirmed that military hazardous waste from Department of Defense facilities was incinerated in Asarco's El Paso furnaces, endangering the population.[114] Citing this shameful history, Texas, New Mexico and Mexican officials opposed the reopening of Asarco.[115] Recently, however, Asarco withdrew their permit application to reopen the smelter, citing the weak economy. The community still faces the question of what will be done about Asarco's toxic legacy of widespread contaminated soil. At this time, it has not yet been formally designated as a Superfund site.

Asarco's bankruptcy, now in year three, continues to tax the capacity of communities and public agencies. At present, Grupo Mexico, who currently own Asarco, and Sterlite/Vedanta, a mining company, are locked in a battle for ownership of Asarco. Many observers believe the bankruptcy settlement could greatly impact the future of Superfund.[116] If Asarco emerges lean, mean—but not clean—state governments and the Federal Superfund will have to figure out how to clean up its pervasive pollution. The message to corporate America is that Superfund can be "used" to bail out companies after years of unchecked toxic pollution while the families and workers from Ruston, Washington to El Paso, Texas, from Hayden, Arizona to Omaha, Nebraska will also pay the costs—with their health and the health of their communities.

Asarco is not alone in declaring bankruptcy and leaving Superfund and the American taxpayers with the burden of cleaning up their contaminated sites. A report by the Center for Public Integrity identified six companies connected to roughly 120 Superfund sites in 28 states that have filed for bankruptcy in the last decade.[117] The companies are: Bethlehem Steel Corp, Dresser Industries, Inc. (a Halliburton subsidiary later renamed DII Industries, LCC), Eagle-Picher Industries, Inc., Kaiser Aluminum Corp, Polaroid Corporation, and W.R. Grace & Co. According to the CPI report, four of these companies have escaped over half a billion dollars in pollution cleanup costs by declaring bankruptcy.

Congress needs to close the loophole in the federal Superfund law that allows companies to use this exit strategy to avoid their cleanup responsibilities and liabilities and to burden an already financially weakened Superfund program.

Chapter Five

Financially Ailing Super Slow Superfund

The increased costs of testing and cleaning up contamination at Superfund sites damaged by hurricanes, tornadoes and floods have significantly burdened an already financially ailing Superfund. For instance, the USEPA spent $564 million on site assessments and cleanups related to Hurricane Katrina.[118] Some of these funds did come from the Federal Emergency Management Administration, however, a significant amount of Superfund monies were spent on emergency response activities, such as testing suspected contaminated areas and cleaning up, repairing, or expanding remedies at sites. All the hurricanes, tornadoes and floods in recent years that have impacted Superfund sites are adding a growing financial burden to the program.

At the same time, Superfund could be saddled with additional major costs that result from corporate bankruptcies as polluting companies like Asarco try to avoid the costs of cleaning up their sites by declaring bankruptcy. As more and more businesses struggle in today's weak economy, there is the potential for more sites to end up in Superfund as polluters declare bankruptcy and leave the government to pay for the cleanup costs.[119]

Funding Shortfall

Where will the money come from? Funding for Superfund has continued to decrease from approximately $1.8 billion in 1999 to $1.3 billion in 2007 (in constant dollars) according to a Government Accountability Office report.[120] This decrease has already resulted in a dramatic reduction in the number of sites cleaned up. During the Bush Administration, there was over a 50% decrease in the number of sites cleaned up. For instance, in 2008, EPA completed cleanups at only 30 sites, a 65% reduction from 1997 to 2000, the period prior to the Bush administration when an average of approximately 87 sites per year were cleaned up.[121]

The problem is that the program's funding has been greatly reduced ever since the industry fees were allowed to lapse in the mid-1990's. When Superfund was created in 1980 through the Comprehensive Environmental Response, Compensation and Liability Act, a Trust Fund was set up of approximately $1.6 billion to pay for the cleanup of any site where a polluter could not be located, was bankrupt, or refused to take action.[122] This Trust Fund was financed by fees or taxes collected from companies responsible for hazardous chemical releases. There were a total of four fees that became the financial backbone of the Superfund program for more than 20 years. They included assessments on crude oil, chemical feedstock, imported chemical derivatives and corporate environmental income tax. See Appendix B for a more detailed description of the fees and taxes.

At the end of 1995, the federal government stopped collecting the fees because they were not reauthorized by Congress. At that time, the Superfund Trust Fund had accumulated nearly $4

billion.[123] By 2003, however, Superfund had run out of money and the entire financial burden fell to U.S. taxpayers. So, for the past five years, Congress has annually allocated approximately $1.2 billion of general revenues—taxpayer's money— to Superfund since both Congress and Presidents Clinton and Bush failed to reinstate the fees.[124]

The lack of polluter pays fees and the dependency on taxpayer revenues has led to a funding shortfall. In early 2002, the EPA Inspector General reported a $225 million funding shortfall.[125] The agency then "scrambled to de-obligate and re-certify unexpended prior year funds" and by the end of Fiscal Year (FY) 2002, the shortfall was down to $97 million.[126] The Inspector General report identified seven unfunded sites and another five sites where less than half the funds were provided. By 2003, the funding shortfall had grown to $175 million dollars and another eleven sites were identified where cleanup was halted due to a lack of funding.[127]

The EPA Inspector General found four areas of serious funding shortfalls: (1) new start construction (cleanup) projects; (2) inadequately funded ongoing projects; (3) inadequately funded removal projects; and (4) inadequately funded pipeline projects. The report observed the following:

When funding is not sufficient, construction at [Superfund] National Priority List (NPL) sites cannot begin; cleanups are performed in less than an optimal manner; and/or activities are stretched over longer periods of time. As a result, total project costs may increase and actions needed to fully address the human health and environment risk posed by the contaminants are delayed."[128]

In 2004, a survey of EPA staff by the House Energy and Commerce Committee found an estimated shortfall of $263 million dollars, and 19 sites were not cleaned up due to the funding shortfall.[129] House Committee Chair John D. Dingell and other Members of Congress criticized EPA for its lack of action. Dingell said that, "Instead of making an all out effort to educate the public and the Congress about the serious funding shortfall, EPA has instead adopted communications strategies to minimize and downplay the problem."[130]

Since that time, no evaluation of the funding shortfall has been conducted. Every year, the EPA made the same budget request and yet, from 2004 to 2008, Congress provided less than EPA requested.[131] During this time, EPA requested an average of $1.69 billion and Congress appropriated an average of $1.26 billion, roughly 25% less than requested (See Appendix C). A recent report by the Congressional Research Service suggests Congress could increase Superfund appropriations to address funding shortfalls, but notes "this could prove difficult in light of current interest in deficit reduction."[132] Another indication of Superfund's funding shortfall is that EPA issues an annual list of "unfunded sites." For instance, in 2008, there were 10 unfunded sites which were not cleaned up as shown in Table 3.

Table 3
Unfunded Superfund Sites in 2008[133]

Site Name	Location
Hatheway and Patterson	Mansfield/Foxboro, MA
Silresim Chemical Corporation	Lowell, MA
Elizabeth Mine	Strafford/Thetford, VT
Imperial Oil/Champion Chemicals	Morganville, NY
Monitor Devices	Wall, NJ
Sigmon's Septic Tank	Statesville, NC
Outboard Marine Corporation	Waukegan, IL
Jacobsville Neighborhood Soil Contamination	Evansville, IN
Garland Creosoting Company	Longview, TX
Upper Tenmile Creek	Helena, MT

Superfund Slowdown

The decreased funding has led to a dramatic reduction in the number of sites cleaned up. From 1997 to 2000, EPA averaged 87 completed cleanups a year, as shown in Table 4.[134] In 2001, the number of site cleanups dropped drastically to 47 sites and then to 42 sites the next year. From 2003 to 2006, EPA only completed cleanups at 40 sites each year. Then, another drop occurred in 2007 with only 24 site cleanups. In 2008, 30 site cleanups were completed. Under the Bush Administration, from 2001 to 2008, there has been more than a 50% decrease in the pace of site cleanups from the late 1990's.

Table 4
Number of Superfund Site Completed Cleanups[135]

Fiscal Year	Superfund Site Cleanups
1997	88
1998	87
1999	85
2000	87
2001	47
2002	42
2003	40
2004	40
2005	40
2006	40
2007	24
2008	30

The number of sites where cleanup action has started has also slowed down dramatically. A 2007 study by the Center for Public Integrity found that cleanup work started at only 145 sites during the six-year period from 2001 to 2007, compared to a start-up rate nearly three times greater for the previous six years.[136] The study also found that EPA officials said that they have had to delay needed work at some hazardous waste sites, use money left over from other cleanups which is rapidly dwindling, and resort to cheaper, less effective remedies.[137]

These findings can be corroborated by people living near Superfund sites across the country. Some of their stories can be found in the case studies in Chapter 7. A number of sites are in a "holding pattern" and have been kept on the Superfund site list, called the National Priorities List (NPL), with no action for years. EPA claims the slowdown is because the purchasing power of Superfund dollars has shrunk as the problem sites have become more complex and costly to clean. Yet, the type of sites has not changed so dramatically in the past eight years to result in more than a 50 percent reduction in cleanups. Instead, the Superfund slowdown is the result of an ailing, underfunded program.

Compounding the Superfund slowdown problem is the addition of new sites every year. In past surveys EPA identified over 47,000 potentially hazardous waste sites and continues to discover new sites.[138] As EPA adds more sites to the program, it exacerbates the agency's already slow annual remediation schedule, leaving more sites unfunded and unaddressed.

In addition, the problem of recalcitrant polluters has escalated because of the funding shortfall. Lengthy negotiations between the EPA and polluters to cover the cost of cleanups sometimes last for years. At one time, Superfund had the funds to pay up front for a site cleanup when polluting companies refused, after which they would file cost-recovery actions against the polluter to obtain the money taken from the fund. Faced with the threat of a cost recovery action the agency had been successful in obtaining agreements with polluters to fund site cleanups at a rate of 70 percent of sites overall.[139] Now, polluting companies realize EPA often does not have the funds to threaten them with a Superfund cleanup, thus greatly weakening EPA's enforcement powers.

Chapter Six

It's Time to Refinance Superfund

Approximately 1,600 Superfund toxic waste sites currently poison our drinking water, land and air with chemicals that cause cancer, birth defects and other health problems. Case studies on twenty-five of these toxic sites are featured in the Superfund Site Profiles in Chapter 7. Decreased funding and the Superfund slowdown have resulted in increased toxic exposures and health threats to communities across America. Stable and equitable funding is long overdue for this critically important pollution prevention program.

Superfund faces new threats as more money is needed to clean up sites impacted by hurricanes, tornadoes and flooding, while bankrupt polluters try to unload their site cleanup costs on the program. At the same time, Superfund has been in a slowdown with major funding shortfalls for years, while new sites continue to be discovered and many existing toxic waste sites are languishing and posing health threats to communities.

Securing Superfund's Future

There really is only one solution–Congress must reinstate the polluter pays fees. Without industry fees to replenish Superfund, there is simply not enough money to do the critical job of cleaning up hundreds of health-threatening toxic waste sites and the American taxpayers are unfairly burdened by paying for 100% of the annual costs.

Superfund was founded on the principle that those companies most closely associated with creating toxic waste sites and generating hazardous waste should bear the financial burden of cleaning them up. American taxpayers are unfairly bearing the full burden of paying for abandoned Superfund site cleanups. It is essential that polluter pays fees be reinstated to replenish the ailing Superfund and get it back on the cleanup track. We can solve the Superfund slowdown and prevent toxic dumps from poisoning our communities by reinstating the stable funding source of polluter pays fees which were the financial backbone of Superfund for more than 20 years.

Individual taxpayers should not be shouldering the burden of funding the cleanup of the nation's worst contaminated sites. The impact of extreme weather events and the potential of corporations like Asarco to walk away without any financial responsibility to clean up their sites will add an even greater burden.

Except for President George W. Bush, the Superfund polluter pays fees have benefited from broad bipartisan presidential support. President Jimmy Carter, a Democrat, signed the 1980 original law and President Ronald Reagan, a Republican, signed the 1986 law to expand the fees. In 1990, President George H.W. Bush, a Republican, signed a law renewing the fees.[140] In

1995, President Clinton's Administration proposed Superfund fee reauthorization, but Congress did not approve it. President George W. Bush consistently opposed reinstatement of the polluter pays fees, thus forcing American taxpayers to pay the bill when the program went bankrupt in 2003. The Bush Administration was the first and only administration to oppose the polluter pays principle.

Numerous bills have been introduced to refinance Superfund but none have yet passed. Representatives Frank Pallone, Jr. (D-NJ) and Maurice Hinchey (D-NY), and Senators Barbara Boxer (D-CA), former Senator Hillary Clinton (D-NY), Senator Frank Lautenberg (D-NJ) and Lincoln Chafee (R-RI) and other legislators have all sponsored bills to reinstate Superfund's polluter pays fees and shift the cleanup expense back on polluting industries.

The Center for Health, Environment & Justice (CHEJ), U.S. PIRG, Sierra Club and hundreds of state and local environmental, health and community groups have waged a campaign to refinance Superfund over the years. CHEJ Executive Director Lois Gibbs was a leader of the successful community fight to relocate over 800 families away from the Love Canal toxic waste dump in Niagara Falls, NY which led to the creation of the Federal Superfund in 1980. After years of delay, Ms. Gibbs urges policymakers to take action on this critical environmental health problem.

"Congress should restore the hazardous waste fees on polluting industries and enable Superfund to move forward and respond to new toxic threats. The core principle of the Superfund program is that polluters, not taxpayers, should pay to clean up these deadly toxic waste sites. In addition to providing funding, the polluter pays principle creates a powerful disincentive against the reckless dumping of toxic waste."

Chapter 7
Superfund Site Profiles

This chapter features Superfund Site Profiles for sites in twenty-four states plus Puerto Rico. The Site Profiles are based on interviews with community leaders impacted by the sites, or environmental group leaders. Some have been updated with information from the website of the USEPA Superfund program. These profiles put a human face on Superfund and describe the successes and persistent problems of this important public health protection program.

Superfund Site Profiles for Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Idaho, Louisiana, Maine, Massachusetts, Michigan, Missouri, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Tennessee, Texas, Vermont and Washington are on the following pages.

To obtain a complete list of Superfund sites by state, visit EPA's website at http://www.epa.gov/superfund/sites/index.htm.

Alaska
Fort Richardson
Anchorage

Group Successfully Challenges Army on Superfund Site

ACAT challenged the Army's cleanup plan, arguing it was too limited in scope and relied on an unproven technology that "would generate toxic chemicals that are equal to or more toxic than the chemical warfare agents themselves." - Pam Miller

Since 1997, Pam Miller and Alaska Community Action on Toxics (ACAT) have been working toward a Federal Superfund cleanup at the Fort Richardson site. As a result of their continued efforts and the power of Superfund, they are beginning to have a great deal of success.

Fort Richardson was constructed in 1940, and it occupies a 56,000 acre area north of Anchorage. During World War II, the Fort's mission was to defend Alaska against foreign invaders. Today, its mission is to command Army forces in Alaska and provide services to support forces from Alaska to the Pacific theater. However, from 1940 to 1988, the Army participated in open burns and munitions detonations throughout Fort Richardson which created high levels of pollution primarily in an area known as Eagle River Flats.

Eagle River Flats, located in a delta in the northwestern corner of the military base, served as the primary ordnance impact area for Fort Richardson since World War II. The ordnance testing area encompasses 2,500 acres of wetlands, which are an important habitat for waterfowl such as ducks, geese, and swans during spring and fall migrations. Sediment and surface water samples in 1989 and 1991 revealed elevated levels of heavy metals, explosive compounds, and white phosphorous. These samples acted as a catalyst for further testing by the Army.

In 1993, chemical warfare agents were unearthed by the Army during excavation of solvent-contaminated soils at the site. This led the EPA to immediately designate Fort Richardson as an NPL site. In 1994, EPA listed 46 contaminated areas on the base that pose a potential threat to the environment and human health. After the excavation, the chemical warfare agents were stored in an Army base bunker that did not meet federal standards for hazardous material storage.

In 1998, a cleanup plan was proposed that divided the site into 5 work areas or "operational

units." As part of this plan, the Army proposed to use an experimental technology to "treat" the chemical warfare materials, claiming that the treatment would neutralize the chemicals. But ACAT challenged this premise arguing that the Army's plan was too limited in scope and relied on an unproven technology that "would generate toxic chemicals that are equal to or more toxic than the chemical warfare agents themselves." ACAT filed comments stating that the proposed cleanup plan failed to "address the larger problems of toxic pollution from the more than 10,000 unexploded bombs and other munitions at Eagle River Flats."

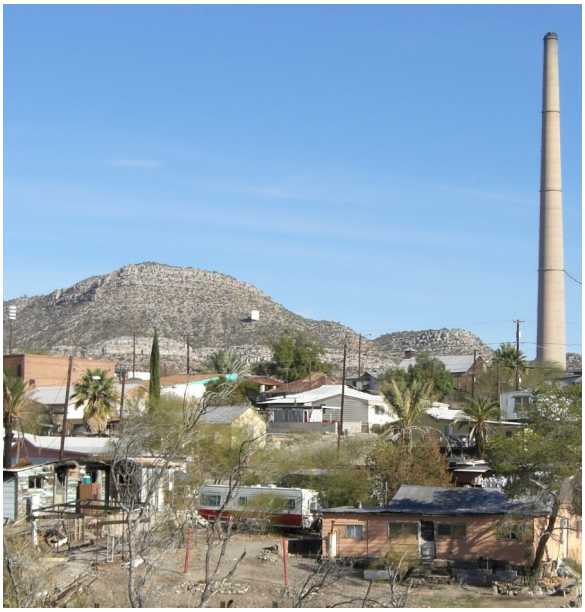
When the Army ignored their comments, ACAT felt they needed to take a different route and 2002, ACAT, along with other organizations, sued the U.S. Department of Defense over its bombing activities at Eagle River Flats claiming that they "harm water quality and pose a toxic and safety hazard to local indigenous subsistence users and nearby residents." ACAT's press release said, "Despite the presence of 10,000 pieces of unexploded ordnance (UXO) in Eagle Flats, the Army refused to address the dangers posed by the presence of UXO. The Army's discharges of munitions into the Eagle River Flats released chemicals such as RDX, 2, 4-DNT, heavy metals and other high explosive and propellant compounds."

After two years of negotiations, a settlement agreement was reached that provided significant protections to water, fish, wildlife, and human health including restrictions on munitions firings near migratory birds and provisions to keep the community involved in the cleanup process. As a result of these efforts, it now appears that the cleanup of Fort Richardson and Eagle River Flats is finally on track. Other community groups have been independently active in restoring the Eagle River Flats area as well, and in 2008, the Eagle River Flats Watershed Council raised $1.5 million to modify the river's temperature, flow rate, and dimensions to create a more nurturing environment for trout.

Pam Miller
Alaska Community Action on Toxics
Anchorage, AK

Arizona
Asarco Site
Hayden and Winkelman

Fighting the Long Fight for Health in Copper Country



"We all knew about the smoke and that funny taste in our mouth, but we didn't know how much those chemicals would affect everybody's health."

In southeast Arizona, the tiny rural towns of Hayden and Winkelman have been centers of mining and smelting for over a century. The towns grew up in the shadow of Kennecott and Asarco and today Hayden's Asarco copper plant is the last operating smelter in the country. "Copper was king" in Arizona and the industry has been a powerful force in state politics.

Concerns about exposure to lead, arsenic and sulfuric acid haunted workers and families for decades. In 1994, Hayden's smelter was rated #6 in the nation for toxic releases. Health concerns escalated among the Hayden residents. As one resident said, "You don't bite the hand that feeds you. But you have to think about your health, your children, your neighbors. A lot of people were dying, people were ill from heart and lung diseases, cancer, miscarriages, learning disabilities, asthma. We knew something was going on. Having only one industry in town, we thought, "Where else could the pollution be coming from? I felt the people had the right to know."

Smelter workers and their families endured persistent economic and environmental injustice. For half the 20th century, Hispanic workers were paid less (almost by half) than Anglos doing the same job. In 1992, a Steelworkers Union local documented discrimination in workplace health; during physicals Asarco inflated results of breathing tests of Hispanic workers by 15%, concealing damage to their lungs.

People found it was difficult getting agencies to respond to health concerns. In the 1990's, government studies found no conclusive links between exposures and cancer. Asarco funded a state Department of Health Services study, asserting it would "confirm … there is little if no impact from the plant on the community." Yet home-buyers had to sign waivers releasing previous owners from liability for hazardous dust exposures. Serious illness was widespread.

A local activist noted that, "When they did their studies, everything came out OK. Then 2-3

months later an article would come out: 'Asarco, number one polluter in the state'. Then it would go away, everybody would continue on."

Finally, the level of concern was intense enough for 200 plus families to organize a multi-million-dollar lawsuit. The suit languished in court but was eventually bundled into Asarco's bankruptcy proceedings launched in 2005 and still underway. The bankruptcy court awarded $4.8 million with over 60% going for legal fees. Like other communities who attempted the lawsuit strategy, many felt betrayed and disappointed at the pittance they were awarded.

Determined activists in the Copper Fist Coalition fought for worker and community rights and pushed for a cleanup, medical care, compensation and relocation, if needed. In 2005, Asarco retaliated with a "right to pollute" suit, attempting to intimidate locals who challenged them. People pressed on, going door-to-door to share information with neighbors and arrange for medical testing. While the community struggles with a "jobs-versus-health" blackmail situation, and the union struggles to develop effective worker and community protective strategies, a deep sense of neighborly allegiance remains.

For years, EPA and state agencies intermittently monitored the community. Finally, in 2008 EPA released the results of years of testing, finding dangerously high levels of arsenic, lead, copper and chromium. This included arsenic in the air at 60 times the levels expected in areas unaffected by smelting. One resident said, "We all knew about the smoke and that funny taste in our mouth. We knew the mine was a very dangerous place to work, but we didn't know how much those chemicals would affect everybody's health. We didn't know that those numbers would be tied to the yards our children play in. We didn't know that."

EPA recommended that Hayden/Winkleman become a Superfund site. Asarco then offered to do the extensive cleanup without EPA involvement. And although the community has lost businesses, residents and property value, leaving a boarded-up downtown, residents have worried about the stigma of Superfund. Despite resistance from Asarco, Arizona officials, some townspeople and the union, EPA Region 9 pressed for the site to be listed on Superfund. The compromise was a Settlement Agreement, finalized in May 2008 between EPA, the state and Asarco, which effectively treats it as a Superfund site. It requires Asarco to remediate the site to federal standards, under both EPA and state oversight.

Anne Fischel and Lin Nelson,
"No Borders" Project on Communities Living and Working with Asarco

California
Stringfellow Acid Pits
Glen Avon

California Playground Turns Out to Be Acid Pits

Penny Newman at the Stringfellow site, which became one of the first sites added to the National Priorities List.

In the late 1970s, a heavy rain hit the Glen Avon community and streets, homes and a nearby elementary school were flooded. The kids, excited by the heavy rain, played in the puddles, making beards with the foam. It wasn't until after the children were done playing with the "rainwater"—when it was too late for their parents to protect them—that the truth came out. The "rainwater" included more than one million gallons of liquid hazardous waste which the state had released from the Stringfellow hazardous waste site in an effort to relieve pressure against a main storage dam.

The Stringfellow site was created in 1956 as a Class I hazardous waste site permitted to accept the most dangerous chemical waste produced by industry. Until 1972, more than 32 million gallons of liquid hazardous waste were dumped in open pits in a canyon elevated above the community. More than 250 major corporations dumped there, including GE, Lockheed Corporation, and the U.S. Air Force. "It was thought to be the ideal place with a solid granite base in a box canyon and, most importantly, near a small rural community with little political clout," said Penny Newman, Executive Director of Center for Community Action and Environmental Justice. "Who would even notice or even care?"

Over the years, the site leaked into groundwater creating a toxic plume of chemicals, including heavy metals, pesticides, such as DDT, and large amounts of sulfuric, nitric, and hydrochloric acids. One contaminant, perchlorate, which is a component in rocket fuel, spread its pollution more than six miles to the Santa Ana River. The abundance of acid wastes prompted the site's nickname, "The Acid Pits."

Traumatic events like the release of hazardous waste during the heavy rains prompted the community to form Concerned Neighbors in Action. "We had a full epidemiological study done in cooperation between ATSDR and the state," Newman explained. However, "studies don't

address health concerns they simply study them." The major findings of the study revealed high incidences of all cancer. Birth defects in children were elevated in the exposed group and 19 diseases had statistically significant elevations. In recent years, thyroid problems and cancer have developed.

In 1983, Stringfellow became one of the first sites added to the NPL. "The Superfund program provided the framework for communities to address the contamination within their areas," Newman said. The cleanup is being addressed in five stages: initial actions and four long-term phases that include installation of a pre-treatment plant, control of the source of contamination, cleanup of the lower canyon, and cleanup of community wells. So far, the liquid waste has been removed, homes with polluted water have been connected to an alternate water supply, and a groundwater capture and treatment system has been installed.

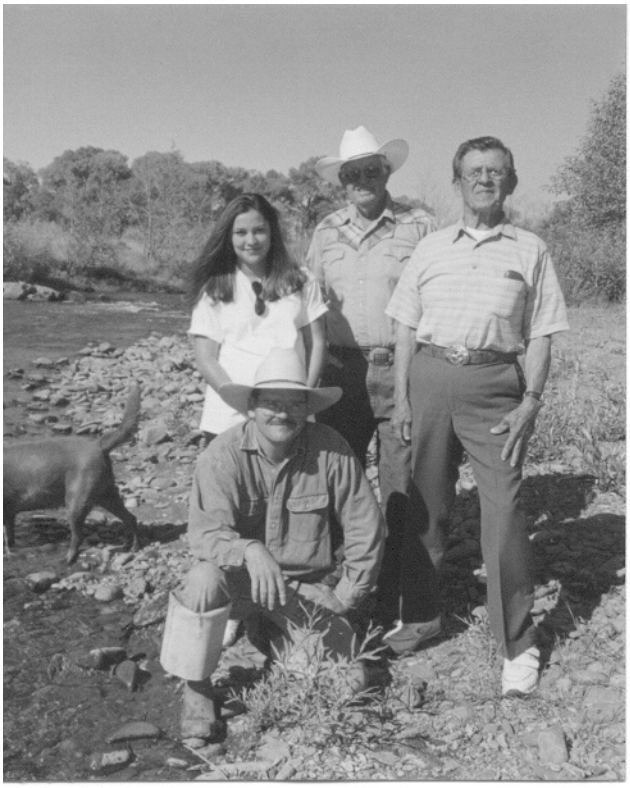
Concerned Neighbors was able to get a technical advisor before Superfund provided one, and their success was used as a model for the Technical Assistance Grant program. The community continues to have a technical advisor, but the responsible parties pay for it. "The main limitations have been that provisions were never fully implemented," Newman said. "Although the law allowed EPA to go in and conduct the cleanup and then bill polluters for three times the cost, it was never used. The lack of funds in Superfund due to the industry taxes not being reauthorized has created a program that's totally impotent. It's disingenuous to pretend a program exists without the funding to address the problems that are still out there. Sites that should be on the NPL are not, simply because the agency doesn't want to expand the list."

A few years ago, there was a legal victory for insurance policyholders which could translate to swifter compensation from potentially responsible parties. In a 2007 case on the notorious Stringfellow site, the California appellate court ruled that "policyholders do not lose any coverage for a partially insured loss when they cannot show the portion of the loss that is attributable to a covered risk." The court determined that "groundwater contamination is not an excluded loss..." Attorneys believe this case will serve as a welcome precedent for policyholders that are appealing coverage decisions in similar types of cases.

Penny Newman
Center for Community Action and Environmental Justice
Glen Avon, CA

Colorado
Summitville Mine
Rio Grande County

Mine Site Progresses After Millions Spent



"*Community involvement remains an issue that is talked about more than practiced by agency site management.*"– Ken Klco

Since the Summitville Mine was added to the NPL in 1994, more than $200 million has been spent on a cleanup—but it's still not enough. Although Galactic Resources is primarily responsible for the pollution and has settled with government agencies, the total settlements don't begin to approach the amount of Superfund money spent on the site, and funds have tapered off as Superfund monies decreased.

"*The mine sites are the first to get bounced off the cleanup list when the funds run out," said Jeffrey Parsons, Senior Attorney for Western Mining Action Project. "Eliminating polluter pays taxes has directly affected the chosen remedy for the site. It still poses a major environmental public health threat.*"

The 1,230 acre site, located in the San Juan Mountains of Rio Grande County, was mined underground from the 1870's until the late 1970's. In the 1980's, Summitville Consolidated Mining Company, Inc. started large-scale surface mining for gold using the heap-leach process. This ceased in 1992, resulting in an abandoned gold mine that leaches cyanide, acid and metal-laden mine water into the Alamosa River. "These mines, there's literally nothing like them as far as the damage they cause," said Parsons.

The mining greatly increased the acidity and dissolved metals—including aluminum, copper, iron, manganese and zinc—in nearby streams which killed aquatic life and threatened irrigated farmland downstream. The site includes a forty-acre cyanide heap-leach pad, a large acid-producing exposed mining highwall, a capped pit area, waste rock dumps, a large storage pond for poor quality water, and a water treatment plant. "Summitville is one of the worst environmental disasters we've ever had in this state," said Ignacio Rodriguez, chairman of Summitville Technical Assistance Grant (TAG) Group.

The release of cyanide into the Alamosa River was the primary concern initially. Today, acid mine drainage from the underground mines and numerous seeps and springs emitting low pH metal-laden water are the primary concerns. The river is used to irrigate more than 17,000 acres of farmland in the San Luis Valley, water livestock, and for many generations has been used for recreation, fishing and swimming. "All of these uses can result in human exposure to metals and low pH water," said Ken Klco of Summitville TAG. "Limited health studies have been performed to look at metals uptake in soils and agricultural products, including sheep raised on Alamosa River water and forage and local waterfowl. No significant human health risk has been identified to date."

With no human health impacts confirmed, to date there has been no ATSDR study. Instead community concern has focused on the ecological impacts to the Alamosa River and the Terrace Reservoir, a water storage facility located downstream from the mine site. Klco noted that Superfund helped to identify and address these pollution issues. The community also received a TAG that supported community input into technical decision-making on the cleanup and maintenance of the site with the help of four technical advisors.

Around 585 acres have now been restored so as to support plant and wildlife habitats. The final remedy for the site, selected in 2001, includes containment of contaminated water from the mine, construction of a new water-treatment plant, possible construction of a large containment reservoir, and contaminated groundwater and surface water interceptor drains and site maintenance.

Despite Superfund's support, Klco says the agency interaction was at first difficult and frustrating. "While these issues have improved, community involvement remains an issue that is talked about more than practiced by agency site management," he said. "The 2001 ROD for the site has not yet been implemented, due to low funding levels and relatively low priority versus sites with higher human health impact potentials."

In 2007, water treatment program authorities re-routed the Wightman Fork Creek's flow so that its current would not be directed towards the valley's bottom—or the mine operation site's location. A water diversion channel was developed, but authorities are seeking to improve the flow capacity to accommodate 100 to 500 year flood cycles. Migration of contaminated ground water has still not been controlled.

Ken Klco and Ignacio Rodriguez
Summitville TAG
Rio Grande County, CO

Connecticut

Laurel Park Landfill
Naugatuck, CT

Landfill Owner Shirks Responsibility for State's Top Superfund Site

"While I was surveying the neighbors, I found many women experienced miscarriages, and cancer was in many of the families. Young women that used to play in the polluted stream died early in life. One woman was bathing in benzene-contaminated water and ended up with eye tumors," said Mary Lou Sharon.

The Laurel Park landfill, located on top of Hunter's Mountain, is the Number 1 Superfund site in Connecticut. In 1983, the site was listed on the NPL as it is filled with petroleum products, and a wide array of toxic and industrial waste.

The Murtha family, which opened the 20-acre landfill in 1947 to burn paper products, never acknowledged their infamous toxic site after it closed. They never took responsibility for the pollution or the cleanup. "The landfill owner, H. Murtha, made thousands, perhaps millions of dollars, and paid very little for the cleanup," said Mary Lou Sharon, president of Pollution Extermination Group, Inc (PEG).

In the early 1960s, a lawsuit was filed against the Murtha family, calling for a halt to burning onsite and toxic chemicals stored in acid pits, as well as coverage of existing chemical waste pits. The pits were never covered. After the landfill closed in 1989, legal action continued as EPA sued Uniroyal Chemical Co. and B.F. Goodrich for the cleanup costs. The companies in turn sued 200 municipalities, business and individuals arguing about the percentages of responsibility. Litigation lasted for three years, ending with 19 potentially responsible parties (PRPs) agreeing to implement a cleanup.

The $20 million cleanup plan included fencing a portion of the site, installing a landfill cap, providing a new drinking water line for the residents, building a sewer, and installing a leachate collection and treatment system and groundwater extraction and treatment system. According to EPA, these measures prevented direct exposure to the contaminants, making it safer for the nearby residents and the environment.

"The PRPs didn't clean the site," said Sharon, who lives within the vicinity of the landfill. "They capped it because the chemicals would have been too hazardous to transport back off the site. A leachate system was designed and the site was capped. Every bit of hazardous waste as well as all the contamination from the flood of 1955 are still on site or have traveled downhill into the surrounding neighborhood."

The contaminants range from polychlorinated biphenyls (PCBs) and dioxins to hospital waste and asbestos. PEG petitioned the state to test for dioxins and challenged the state health department on procedures for testing water. However, the agencies took no action to address health concerns. Sharon said. "While I was surveying the neighbors, I found many women experienced miscarriages, and cancer was in many of the families. Young women that used to play in the polluted stream died early in life. One woman was bathing in benzene-contaminated water and ended up with eye tumors. Farmers' chickens and ducks also died from being in the polluted stream."

The stream was heavily polluted with high levels of toxic chemicals and landfill leachate. It traveled downhill through a schoolyard. University of Connecticut students did a health study, but it was lost by the university and never completed for publication.

Although the health studies have been unsuccessful, PEG has had some of their concerns addressed. The main objectives of the neighborhood organization were to close the landfill, reduce the off-site of pollution and secure drinking water for people living near the site. All these objectives were accomplished, along with the installation of monitoring wells on site.

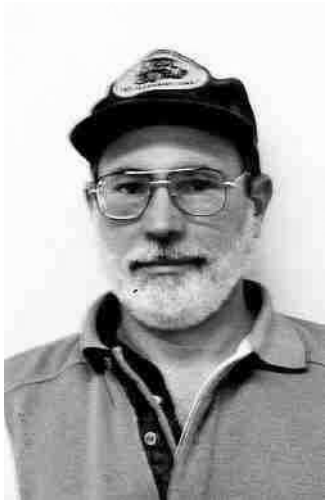
The EPA asserts that it has completed the site cleanup with the exclusion of developing institutional controls. Sharon warns that hazards still exist and have not been fully addressed. For instance, a new problem has been identified by experts: contaminated waste traveling from the site can harm people through toxic vapor exposure, a route previously ignored.

Mary Lou Sharon
Pollution Extermination Group, Inc.
Naugatuck, CT

Delaware

Standard Chlorine of Delaware, Inc. (aka Metachem)
Delaware City

Spills Lead to Water, Soil & Wetlands Polluted with PCBs and Dioxin



Chlorobenzenes were made at the Standard Chlorine of Delaware site from 1966 to 2002. The 65-acre site in New Castle County became a Superfund site in 1987 due to a 1981 chlorobenzene spill that occurred while workers were filling a railroad tanker car. In 1986, a second spill occurred when 569,000 gallons of volatile organic compounds (VOCs) spilled after a 375,000-gallon tank collapsed, and damaged three nearby tanks.

Alan Muller, Executive Director of Green Delaware, a statewide organization working on environmental and public health issues, noted that when the tank burst, "There was a lake of toxic chemicals running into the ground. That's what finally got the government's attention."

"It is the kind of site that made things that should never be produced anyway…an inherently evil toxic."– Alan Muller

Chlorobenzenes were found in groundwater, soil, sediments and surface water. The wetlands near the site are also contaminated with polychlorinated biphenyls (PCBs) and dioxins. About 152,000 people draw groundwater from wells within three miles of the site, but only about 30 people lived within a mile of the site, which is "one of the ways they got away with not cleaning it up soon," says Muller.

The community was concerned about contamination in Red Lion Creek and the Delaware River, as well as air emissions. The most common health worries are cancer and birth defects. Muller said, "We would suspect that the exposure to all kinds of chemicals would lead to cancer, but there aren't any studies that would confirm that to the satisfaction of the government."

Little cleanup activity occurred until 1995 when EPA required the company to install minimal measures to protect the groundwater, but they did nothing. Then in 1998, the company was brought by Metachem, who claimed to be different, but still did nothing. Then abruptly, in 2002, Metachem declared bankruptcy and walked away. "That was when they started to clean up," said Muller.

Muller believes the government has not addressed health concerns. While ATSDR has looked at the site twice, they basically pronounced everything "OK." He noted that the agency did mention there could be danger on ball fields next to the plant, but "they never acknowledged that there was a threat to the community."

While there is an ongoing cleanup, “there are a lot of problems with it,” says Muller. One of the main complaints is the lack of interaction as “community opinion has been ignored, and they just do what they want.” This was especially noticeable in the emergency removal phase as he noted, “their attitude is that if they listen to the community, it would take forever.”

The community became even more outraged when they learned that much of the waste being removed was being shipped to communities in Mexico. Many felt that this was “beyond anything that should be tolerated.” Muller sums up, “It is the kind of site that made things that should never be produced anyway. This is an example of why it should not be made. It’s an inherently evil toxic.”

In 2007, EPA constructed a 45 to 75 feet deep barrier wall surrounding the plant to block the migration of contaminated groundwater and shift the groundwater’s course to a treatment facility. Disposal of the site’s liquid chemicals by packaging the waste in “totes” is still continuing; however, the totes’ specific destination is not specified.

A lack of funds has been a clear limitation, but, “the EPA will never admit that they don’t have enough money. And they always want to do things as cheaply as possible,” says Muller. He feels polluter pays fees should be absolutely reinstated because it is the key principle guiding Superfund. Marvin Olson, a Vietnam War veteran who lives near the plant, is concerned, especially because he witnessed the horrific consequences of dioxin contamination with Agent Orange. He cynically remarked that, “I don’t think they’re doing what they need to to make it necessary for these kinds of places to actually make changes. They’re giving them too long a lead time. I work at a nuclear plant, and if we operated the way they do here, we’d be shut down.”

Alan Muller
Delaware Greens
Delaware City, DE

Florida

Escambia Treating Company
Pensacola, FL

Community Pushes EPA to Detoxify "Mount Dioxin"

Margaret Williams

The Escambia Treating Company Superfund Site, known as "Mt. Dioxin," is a former wood treating facility in the center of greater Pensacola. It sits 60 feet above downtown, but just 48 feet of sandy soil above the unprotected groundwater, which serves as the sole source aquifer for thousands of residents and discharges into Pensacola Bay System.

Escambia Treating Company (ETC) operated from 1942 to 1982, using creosote and pentachlorophenol (PCP) to treat wood. The resulting residues are highly toxic and persistent in the environment and the human body. They not only saturate the 26 acres of the site, but they have spread throughout nearby residential, school, and commercial areas on both sides of a major thoroughfare. They have also leached down through the soil and spread in a large groundwater plume that reaches a mile and a half to Bayou Texar.

Ceasing operations in 1982, the plant was abandoned in great disarray. EPA sampling investigations started in the early 1980s and have detected dioxins, PCP, polycyclic aromatic hydrocarbons (PAHs), arsenic and other contaminants at high levels in the soil and sludge, offsite as well as onsite. The groundwater plume contains elevated levels of naphthalene, benzene, PAHs, phenol and vinyl chloride.

Instead of placing the site on the NPL to be a "real" Superfund site, EPA initially chose to handle it under their emergency removal program and started excavating the contaminated soil and sludge without determining the magnitude of the problem. Separated from the residential yards by nothing more than a broken chain-link fence, the excavation created a straight 40-foot drop

from the yards bordering the site. From October 1991 through November of 1992, workers in "moonsuits" dredged up toxic soil less than 15 feet from children playing in their own yards.

Residents near the site began meeting in 1992, in a desperate but unsuccessful attempt to stop the digging. Within months, it became apparent that the community was facing complex and long-term questions regarding health protection and toxic cleanup. Citizens Against Toxic Exposure (CATE) was formed to represent community interests and they pushed for the NPL listing in 1994. As CATE discovered the extent and toxicity of offsite contamination, the group's demand became permanent relocation for the 358 mostly African American families in the neighborhoods closest to the site. The campaign was joined by the CHEJ and other groups and on October 3, 1996, exactly five years after EPA began the excavation, the agency agreed to CATE's demand for permanent relocation of all 358 families. CATE then learned that high levels of toxic contaminants are present in another neighborhood and won relocation for some fifty additional families.

Some families are still in the process of relocating. But, some residents have complained about how the "government appraiser valued their property below market value." These low appraisals exacerbated residents' frustration over leaving an area located near jobs and family members. Property negotiation discussions seem to have improved with a new appraiser.

In 2005, EPA released a proposed plan for burying and "capping" the surface soils on the site. With the addition of offsite contamination, the volume of wastes now totals nearly 600,000 cubic yards, more than double the original Mt. Dioxin. EPA tries to prevent dust-blown contamination with dust meters, visual observations and dust screens. CATE is working to see the site detoxified, not merely covered up.

"The community suffers high rates of cancer, numerous chronic disorders, and birth defects linked to chemical exposure," said Francine Ishmael, President of CATE. Ishmael recalls that for years residents unknowingly used contaminated well water for drinking as well as irrigation of their gardens and fruit trees, and ate produce tainted by airborne contaminants as well. "People have had to bear far too much toxic exposure already," Ishmael declares. "Now EPA must offer real cleanup and protection."

Francine Ishmael
Citizens Against Toxic Exposure
Pensacola, Florida

Idaho

Bunker Hill Mine and Metallurgical Site
Kellogg

Community Wonders What it Will TakeTo Clean up the Nation's Largest Superfund Site

"*The return of polluter pays fees is critical to finish the cleanup at the Bunker Hill site.*"– Barbara Miller

For 22 years, the Silver Valley Community Resource Center (SVCRC) has been fighting to clean up the Bunker Hill Mine and Metallurgical site. Although they've made some progress, the health of many residents in the area is still a major concern. Located in Shoshone County in Northern Idaho, approximately 40 miles east of Coeur d'Alene, this site is home to the most severe epidemic of childhood lead poisoning associated with industrial pollution ever recorded in the United States.

Beginning in 1917, the Bunker Hill area developed into a huge industrial complex focused on mining, smelting and refining metals. It is estimated that millions of tons of mill tailings, mine waste rock, and ore concentrates were spread across the area by a wide array of mining and railroad companies.

Bunker Hill is now the largest Superfund site in the country; though this has not expedited the cleanup process according to Barbara Miller, SVCRC. She points out that Shoshone County has "consistently held the highest death rates for the State of Idaho during the last 20 years." She believes these statistics are directly related to environmental lead poisoning.

"The lead poisoning associated with the site can be directly attributed to the inadequate funding of the Superfund cleanup process," said Miller. This led SVCRC to take matters into their own hands. In 2003, SVCRC conducted a health study of 252 households who live in the vicinity of Bunker Hill which had startling results. Miller states, "The study showed that households responded resoundingly to the fact that they suffer from heart disease, high blood pressure, and learning disorders." Over 37% of those who participated said someone in their household has a chronic disease, and 33% reported miscarriages.

Five generations of families are living with chronic lead poisoning, in spite of an annual lead screening drive conducted by the public health department. Not one child, adult or former worker has ever received any health intervention beyond positive confirmation of lead poisoning in the area, states Miller. Nor will the public see any information regarding lead poisoning or exposure in the 21 sq. mile epicenter which takes in four towns and approximately 5,000 people. "This is because the director of the public health department has conflicts of interest as a planning and zoning member, local hospital board member, "points out Miller, "and the tourism economic development department of the isolated area in North Idaho."

SVCRC is a grassroots organization that has led the charge for the cleanup and local job hiring for 22 years. Just when SVCRC thought EPA and the state could not exploit the community any further, they were surprised to see in an April 2007 newspaper that EPA and Idaho Dept. of Environmental Quality were arbitrarily establishing a 20 acre, 60 ft. tall, 600,000 cubic foot toxic waste repository at the Old Cataldo Mission, a national historic landmark. The Old Mission repository is located in a floodplain and the wetlands flood every year without fail. It is also a former native American ancestral grounds. This is all information that EPA and IDEQ are fully aware of, notes Miller. Miller believes that EPA is moving further away from their mission. "As a low income community situated in a very isolated area with five generations of lead poisoned families, SVCRC has been organizing the community for a second-rate cleanup that the community is not receiving," said Miller.

The work of Barbara Miller and SVCRC has brought significant results. However, it is apparent that without Superfund refinancing, the cleanup of the entire site is unlikely. "The return of polluter pays fees is critical to finish the cleanup at the Bunker Hill site," said Miller.

Barbara Miller
Silver Valley Community Resource Center
Kellogg, Idaho

Louisiana
Petro Processors, Inc.
Baton Rouge

Residents Warned Too Late Not to Eat From Devil's Swamp

"*The EPA has not helped our community in our struggle. They have agreed to a sham cleanup and have even tried to coerce us into celebrating the construction completion*," said Florence Robinson.

Devils Swamp first began to live up to its name in 1964 after chemical wastes from ten major petrochemical plants were dumped in a pit between Baton Rouge Bayou and Highway 61. The plants included Exxon, Dow, Uniroyal, U.S. Steel, Copolymer and Ethyl Corp. In 1980, the site was capped, but two years later it became a Superfund site.

Petro Processors is actually made up of two sites, totaling 77 acres. The first site consists of unlined pits used to bury "designer" chemical wastes such as hexachlorobenzene. By 1993, the wastes had migrated from the site and across a four-lane highway. Erosion along the bayou coupled with overflow of the site during heavy rains resulted in contamination of the bayou, which carried that contamination into Devil's Swamp.

The second site consists of waste dumped in unlined pits, including a pond where fish and trees were killed. The site has been flooded by the Mississippi River several times, carrying waste over the swamp. Also, a dam broke on the site, resulting in a major spill that killed over 100 cattle on an adjacent farm. The contamination has seeped deep into the ground, contaminating the groundwater. "The depth of the contamination was never determined," said Florence Robinson of Baton Rouge Environmental Association. "This site contained the highest concentrations of chlorinated hydrocarbons ever found out of the test tube."

Hunters and fishermen who had direct contact with contaminated sediments and ate fish, game and vegetables from the swamp were exposed, as well as residents from inhaling the contaminated air. "Residents have complained of high cancer rates, high blood pressure that disappeared when people moved to other areas, severe nose bleeds, asthma, sudden, unexplained deaths and serious allergic problems," said Robinson. "The community also has a lot of serious kidney disease, neurological problems, and there have been some horrific birth defects."

ATSDR did a health assessment which confirmed unsafe exposures. However, they denied any health risks or problems. Robinson and her group applied for a grant for Devil's Swamp, but found bureaucratic demands made it a near impossibility. "The Federal Superfund has not helped our community in our struggle," Robinson stressed. "They have agreed to a 'sham' cleanup, and have even tried to coerce us into celebrating the completion of construction. They refused

to recognize off-site contamination from Petro Processors. A lake in the swamp, Devil's Swamp Lake, has been proposed for Superfund status, but because Exxon protested, EPA refuses to list it."

Robinson believes the pump and treat remedy chosen for the site was inefficient and resulted in further exposures. A shift in politics, she said, along with reinstatement of polluter pays taxes could result in a stronger remedy. "Local politics has too strong an influence on the process," she said. "We wanted to petition to get Devil's Swamp Lake on the NPL years ago, but we knew that our governor, who was very pro-industry, would not approve it. Rather than hit a dead-end, we just bided our time until the political winds changed a bit."

Every year since this company started operating in 1965, the Mississippi River has flooded the swamp next to the site. Waste from the two sites continues to migrate underground and contaminate fish, wildlife and the forest in Devil's Swamp. Robinson points out that nothing has been done to contain the extremely high levels of toxic waste which has moved down Bayou Baton Rouge and through Devil's Swamp more than three miles to the Mississippi River. And, she notes that nothing has been done by state or federal agencies and the polluters to effectively deal with the contamination in and around the swamp and the two Petro Processors sites. "In the last three years all of the structures and industrial equipment used to remove the waste have been closed down and removed," said Robinson. "Lots of people hunt and fish in the swamp and most of these people do not have a clue that the swamp is contaminated, and many of the workers have no idea they are working in an area that is a threat to their health and the environment."

Florence Robinson
Baton Rouge Environmental Association
Baton Rouge, LA

Maine
Winthrop Landfill
Winthrop

3 Million Gallons of Chemical Waste Disposed Near Residential Area

"*I'm very concerned that the residents who live very close to this site may be experiencing a higher incidence of cancer and other diseases as a result of the landfill.*"
John Davis

The Winthrop Landfill is a 20-acre site located next to Lake Annabessacook, which includes the town landfill and the privately owned Savage Landfill. The site was used in the 1920s as a sand and gravel pit. In the 1930s, part of the site became a town dump accepting industrial, commercial and municipal waste. Between the 1950s and 1970s, an estimated three million gallons of chemical waste were dumped at the site, including solvents, resins, plasticizers, and other process chemicals. In 1979, the town tried to expand the landfill and found numerous leaking barrels.

The town then closed the landfill and opened a transfer station on the site. However, the Savage Landfill contracted to accept municipal waste from Winthrop and two neighboring towns. Wastes were openly burned until 1972 and landfilling occurred until 1982. Within a half mile of the landfill, there are 63 residences (year-round and seasonal). Wetlands are near the site.

In 1980, VOCs (volatile organic chemicals), including tetrahydrofuran, were detected in a well south of the landfill. Experts found contamination in groundwater beneath the site and in lake sediments south of the landfill. The site was proposed for the NPL in 1981 and added to Superfund in 1983.

Drinking water wells were polluted when the aquifer below the landfills became contaminated. Water was supplied to residents until municipal water could be extended to homes. People were also exposed when walking on the site which was used as shortcut from the road to homes below the dump. Children and teenagers occasionally played and scavenged in the site area.

A clay cover was built over the landfill and a fence erected. Deed restrictions were imposed prohibiting groundwater use, any excavation in the landfill area, and use of the landfill for activities other than cleanup actions. There were several responsible parties, including the Town of Winthrop, Everett and Grace Savage and Immont Corporation (subsidiary of United Technologies Corp.). In 1994, the potentially responsible parties installed a soil vapor extraction system to remove contamination from the landfill waste and prevent further migration of polluted leachate. A year later, they began a pump and treat system to contain and treat both ground and surface water. Then in 2002, EPA proposed a "conceptual rebound evaluation," shut down the cleanup activities, and declared that water levels and groundwater chemistry would be studied

over two years. Within a few months, EPA and the State approved the plan and shut down the pump and treat system.

Priscilla Jenkins moved to the area in 2000, and is "especially glad that we have town water." She thinks her dormant well water and the lake should be tested after spring flooding and strong hydrogeological pressures. "I need to be reassured that the bedrock contaminants were not stirred up to the point of triggering more problems—especially since they stopped testing the 'test wells' last year. And, I now have grandchildren starting to visit regularly."

Jenkins said the only health investigation conducted was a survey—the results of which are unknown. She noted that, "Although no formal connection to toxic exposures was studied, six people died of cancer or kidney problems and one child has Downs Syndrome." Jenkins feels the cleanup procedure took too long to start—from 1980 to 1985—although it went quickly once it started. She believes Superfund polluter pays fees should "absolutely" be reinstated. The resident's main concern now is whether an adequate cleanup was done. "For instance, one woman who lost her husband will not go in the lake," she said. "Several people want more testing and information sharing, since the pumping operation was discontinued. Some of us believe there also needs to be more lake sediment testing."

In 2007, the EPA said it would decommission the groundwater extraction and treatment system and require "monitoring, evaluation, and if warranted, remediation of contaminants at points of exposure." Following this action, all equipment removal work was removed and since late 2008, the town of Winthrop has accepted ownership of the treatment facilities, though they have not yet decided the final use of the buildings.

John Davis
Winthrop, ME

Massachusetts

General Electric- Housatonic River
Pittsfield

Superfund: To Be or Not to Be? Town Divided on Site Classification

"*It is a huge, incredibly complex site, with so many tangled webs.*"– said Tim Gray. Robert Kennedy joins Tim Gray at site.

No one denies that along the Housatonic River in Massachusetts, General Electric (GE) is responsible for an overwhelmingly large contamination of soils and water. Located in Pittsfield, the site extends out from the GE plant, down the river, and into Connecticut. Yet when the site was assessed in 1997, the big business community preferred that it not be labeled a "Superfund" site. What followed was a series of negotiations between GE and EPA, such that GE is not conducting spill response actions for the spills and depending on whom you ask, it is or isn't a Superfund site.

The site encompasses six waste areas: 11 former river bends of the Housatonic that are filled with contaminated soil; numerous spills that resulted in contaminated plumes acres in size; 8 miles of PCB-contaminated floodplain soils; two landfills; and numerous polluted areas in the city of Pittsfield, including near a school. In a report by the Housatonic River Initiative (HRI), the ABCs of PCBs, they note the "GE facility is comprised of 250 acres with five million square feet of building space." According to Tim Gray, HRI Executive Director, GE dumped chemicals for about 30 to 40 years.

The site was nominated for Superfund in 1997, followed by the issuance of an EPA CERCLA Order and a Grand Jury convened against GE. "This put the muscle power together to bring GE to the negotiating table," said Gray. GE negotiated with the Justice Department and EPA and a Consent Decree was issued in 2000, which is essentially in place of a "full tilt Superfund Nomination," said Gray. The consent order laid out a series of cleanups including a 2 mile stretch of the river, several business properties, the GE plant and over 175 homes. Although it is portrayed as not actually a Superfund site, it is in fact one of the biggest sites in the nation.

Health concerns raised by the community include cancer, immune disorders, skin rashes, thyroid dysfunctions and learning disabilities. People were living in these contaminated yards,

emphasized Gray, and even though health problems were severe, people didn't immediately place blame where it was due. "It was hard to make that link, as health problems were rarely linked to the site at first," said Gray. Health assessments by the Massachusetts Department of Environmental Protection and the EPA found nothing. "They pretty much have ignored neighborhood concerns. Both federal and state health authorities don't do their jobs," said Gray. Eventually advisories warning people not to eat fish caught in the river were issued.

HRI got a Technical Assistance Grant which they used to hire experts to work on the side of the citizens, as well as to help with public education about the site and cleanup methods.

"The Superfund program did help the Pittsfield community in that a partial cleanup was performed. In some ways, it was a huge victory," says Gray, "as it brought in $500 to $700 million for clean up. But still, it was only partial. The limitations of the program were lack of funds and sluggish action. At this point they are only willing to do things like capping and landfilling, all of which are only temporary solutions that simply defer things to the future," said Gray.

While remediation efforts are well underway, residents are concerned about the efficacy of cleanup activities. Trees have been cut down to make space for equipment, big rocks surround the river to prevent erosion, and river sediment was transported to landfills. These actions are prompting environmentalists to warn of the damage that may be done to a Massachusetts Audubon Sanctuary and state wildlife lands in the name of saving the river. Although the Housatonic is dirty, its banks host key habitats for dozens of threatened plants and animals, ones that could be destroyed by excavation and the armoring of the river. HRI is urging the use of innovative cleanup technologies that can better protect habitats and the ecosystem.

Tim Gray
Housatonic River Initiative
Lenoxdale, MA

Michigan
Velsicol Chemical
St. Louis

Toxic Landfill Poisons Pine River Fish

Pine River Superfund Citizen Task Force have fought diligently to clean up the Velsicol Chemical Co. Landfill.

The Lower Peninsula of Michigan is the backdrop to the remarkable Pine River watershed. However, this beautiful setting is now home to one of the most horrific forms of toxic abuse in our nation's history, the Velsicol Chemical Landfill. Since 1998, Ed Lorenz and the Pine River Superfund Citizen Task Force have fought diligently to clean up the Velsicol Chemical Company Landfill. Lorenz believes that the Task Force will eventually be able to bring about the region's transformation from a "symbol of environmental abuse to one of good environmental stewardship."

Unfortunately, transformation will not be easy. The Velsicol Chemical Co. polluted the Pine River on such a massive scale that there has been a complete fishing ban on the river since 1974. The fish advisory remains in force today because of the huge quantities of DDT, polybrominated biphenyls (PBBs), and other harmful chemicals contaminating the fish and the river sediments.

The Velsicol site is a 54-acre landfill located in Gratiot County. From 1936 until 1978, Velsicol (formerly Michigan Chemical Corp.) dumped chemical waste into the landfill. The company produced three types of hazardous wastes in significant quantity: DDT, radioactive waste, and the fire retardant, known as PBBs.

The tremendous amount of hazardous waste at the site led EPA to place the site on the NPL in 1982. Although Velsicol paid for the first cleanup of the site in 1982, they were not forced to comply with further cleanups. In 1985, a containment system was built around the site, which consisted of a slurry wall around the 54 acres and a clay cap on the entire site. In 1998, the EPA began an emergency removal action of the Pine River, after dramatically increasing levels of DDT in fish tissue signaled the failure of the containment system.

Today, toxic waste continues to seep from the wall and into the Pine River, bringing pesticides, fire retardants, and other industrial contaminants into the river sediments, creating an extremely hazardous situation.

Ed Lorenz and the Task Force are fighting back. The Task Force is in the early stages of an infant exposure study, which uses infant blood to detect exposures to toxins. Lorenz points out "health data indicates we have high thyroid admissions at the local hospital, and a cancer cluster has been located near the radioactive waste dump." Furthermore, Lorenz states that the rate for non-Hodgkin's lymophoma is 12 times higher than should be expected. The Task Force has also determined that people exposed to PBBs from the site have "significantly higher rates of digestive system cancers and breast cancers."

The Pine River Task Force has received two Technical Assistance Grants (TAGs) which allowed them to effectively lobby the EPA to clean up this massive Superfund site. Unfortunately, the tremendous extent of the pollution has made cleanup much more extensive than first expected. This has caused delays and ultimately exposed many Michigan citizens over the years.

As a result of Superfund's bankruptcy, taxpayers funded the second cleanup which started in 2006, because the earlier cleanup was not sufficient. EPA now considers the Velsicol site entirely cleaned up but has not removed the site from the NPL. Community members resent the federal government's multiple failures that occurred during the lengthy cleanup process which were included in the Five Year Review report on the site. For instance, EPA had slow responses to concerned residents who lived near areas where DDT in soil increased during remedial work. Especially puzzling is the EPA and state's negligence in sampling fish since 2002, despite continued fishing by the local population. As the report suggests, annual caged fish studies would be very helpful in gauging contamination risks. It is clear that the Velsicol Chemical Superfund site still poses a major threat to the community's vigor, environment, health and well being.

Ed Lorenz
Pine River Superfund Citizen Task Force
St. Louis, MI

Missouri
Times Beach Site
Times Beach

A Town is Left in the Dust

Marilyn Leistner, the last mayor of Times Beach, stands in front of the mound where her home and other houses were buried.

Marilyn Leistner knows first hand how important Federal Superfund is. Leistner is the former mayor of Times Beach, once a small 400-acre (8 square miles) community about 28 miles west of St. Louis. During the early 1980s, this city became infamous as the home to massive levels of toxic pollution and became the first community to be relocated using Superfund monies.

The city of Times Beach was a small community located on the banks of the Merrimac River with many unpaved roads that were extremely dusty. As a result, in 1971, and again in 1972, the city contracted with Russell Bliss, who operated a waste oil business, to spray oil on unpaved roads for dust control. It wasn't until much later that they learned that the oil contained the deadly chemical dioxin. According to Leistner, the "city contracted with a waste oil hauler to spray the streets at will." The waste oil contained many toxic chemicals including the most toxic form of dioxin, 2,3,7,8-TCDD and PCBs. A number of companies including Syntex were identified as the original owners of the waste oil.

In addition to finding Times Beach contamination, the EPA's investigation revealed over 150 other sites related to Bliss spraying and dumping of waste with a toxic stew of chemicals, including polychlorinated biphenyls (PCBs). But, EPA was apparently concerned about costs, and halted further investigations. It wasn't until 10 years later in 1982 that the EPA came in and sampled the roads in Times Beach, and afterward, the nearby Merrimac River that flooded the city. The tests revealed dioxin levels as high 1,200 parts per billion (ppb) in the soil. On December 23, 1982, the residents received what Leistner and other former residents now call their "Christmas message." She says people were told, "If you are in town it is advisable for you to leave and if you are out of town, do not go back."

Following the "Christmas message," in January 1983, the EPA allocated $500,000 to the Centers for Disease Control to do a health survey and examination of people in Times Beach. These events would allow Superfund to play a pivotal role in the ensuing months.

In 1983, EPA pledged $33 million from Superfund to purchase the Times Beach properties under a relocation plan, which was implemented by the Federal Emergency Management Agency.

City officials blocked off the roads to Times Beach and placed security guards to patrol the site around the clock. By 1986, all residents of Times Beach had been permanently relocated.

In 1990, the EPA, the State of Missouri, and the companies responsible for the contamination signed a Consent Decree to clean up Times Beach and 26 other similarly contaminated sites in eastern Missouri. Under the terms of the agreement, EPA was responsible for excavation and transportation of dioxin-contaminated soils from these sites to Times Beach and the responsible parties were accountable for the demolition and disposal of debris, and restoration of the site.

Today, the Times Beach cleanup has been completed, and the former Superfund site is now a state park known as the Route 66 State Park. The cleanup was a massive effort that included installing a temporary and controversial incinerator to burn the contaminated soil. The community opposed the idea of burning the soil for years, but eventually could not stop the EPA. By 1997, the cleanup was complete, and the incinerator had burned 265,000 tons of dioxin-contaminated soil.

While the incineration of waste soils was defined by EPA as the end of the Times Beach saga, the remaining sites that were never cleaned up due to a lack of funds and political will continue to be a public health hazard. Residents and local officials are working to stop proposed development of these contaminated sites for new homes. Monitoring wells indicate high levels of dioxin and benzene remain. Cancer cases are still being discovered near these sites and citizens are left to investigate the toxic exposures on their own.

The events that transpired in Times Beach illustrate how essential adequate Superfund resources are. The community was exposed to exceptionally high levels of dioxins and as Leistner points out, “it is very difficult for the former residents of the community to not associate their health problems with their exposure, because they were allowed to live on the site for 10 to 11 years.” However, Superfund did make it possible for people to leave this toxic community. Without Superfund, it is a virtual certainty that the health problems related to the site would have been even worse.

Tammy Shea
Wildwood, MO

New Jersey
Cornell-Dubilier Electronics Site
South Plainfield

PCBs and Transformer Oils Pollute Water and Wetlands

"*This site is clearly a poster child for the need to reauthorize Superfund and provide resources to finally clean up this toxic nightmare that continues to poison South Plainfield and downstream communities*," said Robert Spiegel.

From 1936 to 1962, Cornell Dubilier Electronics (CDE) manufactured electronic parts and tested transformer oils on a 25 acre property in South Plainfield. CDE also dumped transformer oils containing PCBs and buried transformers behind the facility. Soil at the rear of the property was saturated with PCBs, metals, chlorinated solvents and other chemicals. Numerous streams and ponds in the area have been polluted, leading to environmental and community health concerns.

The New Jersey Department of Environmental Protection found unsafe levels of trichloroethylene (TCE), metals, volatile organic compounds and PCBs in soil and sediment samples. Significant levels of PCBs were also found in indoor dust in nearby buildings and homes. Edison Wetlands Association's (EWA) advocacy on the site directly led to the excavation of leaking, buried PCB capacitors and other chemical waste from the highly contaminated rear portion of the site. In addition, in 2007 EWA members located and sampled several PCB capacitors leaking directly into Bound Brook. EPA had tested Bound Brook ten years ago and found troubling levels of PCBs in sediment and fish as far as 2.5 miles downstream from the site. At that time, the only action EPA undertook was to post four warning signs over the entire stretch of the brook, despite EWA's advocacy and clear evidence that subsistence fishermen and children were heavily utilizing the brook.

Even more troubling is that after 10 years, the EPA Site Manager does not even know where the groundwater goes or who is being exposed to the toxic vapors from a TCE plume. There are an estimated 26 chemicals in the groundwater, including significant levels of PCBs and likely dioxins. EPA signed a Record of Decision to remediate soils, despite opposition from EWA and the community, and the agency plans to set up a type of low-temperature incinerator to burn the soil onsite. "The site cleanup will cost an estimated $300 million dollars," said Robert Spiegel, EWA Director, "and most incredibly, in the unlikely chance the federal government does come up with the money and undertakes the plan, the community will still be left with a PCB landfill onsite forever, with levels of PCBs up to 500 parts per million. This is over 1,000 times what the state of New Jersey regulations consider to be safe. Finally, EPA recently accepted stock in lieu of cash to settle claims against the polluter. With the recent stock market crash, I am not sure this was a wise decision."

Other remedial actions include the demolishment of all 18 buildings on the site in 2008, and workers in these contaminated buildings were relocated to safer facilities. However, Spiegel notes that public health risks from the site remain high. In 2008, at the insistence of the EWA members and federal elected officials, the EPA emergency removal staff found that erosion had caused PCB levels in Bound Brook to significantly increase over the last decade. Yet EPA staff refused to hold a public meeting. EWA then arranged for a public presentation before the city council and a standing-room only crowd of residents, forcing the EPA Site Manager Pete Mannino to finally agree to release the agency's findings. The EPA's emergency plan also calls for testing fish and sediments, and developing a comprehensive remediation plan for the impacted 2.5 mile stretch of the brook all the way to the popular fishing New Market Pond downstream. EWA continues to strongly advocate for expedited EPA cleanups and are working with the agency and U.S. Senators to ensure federal funding is made available for remediation and restoration. "This site is clearly a poster child for the need to reauthorize the Federal Superfund and provide the resources to finally clean this toxic environmental nightmare that continues to poison South Plainfield and downstream communities," said Robert Spiegel.

Robert Spiegel
Edison Wetlands Association
Edison, NJ

New Mexico
Molycorp, Inc.
Questa

Questa Opens Its Eyes to Injustice, Closes Its Mouth to Contaminated Well Water

"*Refinancing Superfund with polluter pay taxes would absolutely speed up the process, but until then, Amigos Bravos is on their own.*" –Brian Shield

An estimated 1,100 people live within a few miles of the largest hard rock mine in the Rio Grande watershed. Since it commenced operations as an underground mining pit in 1920, the Molycorp, Inc. mine in Questa has produced more than 320 million tons of acid-generating waste rock next to the Red River. Molycorp, a fully owned subsidiary of Unocal, was also permitted to dump 82 million tons of tailings. The pollution from the molybdenum mine contaminated the neighborhood's well water, which residents drank unknowingly for years.

The light went on for the community in the late 1970s, when EPA and the Federal Bureau of Land Management began documenting major impacts to the Red River due to mining and pipeline breaks. In 1994, the New Mexico Environment Department conducted an investigation, and found there was a release or threat of release of hazardous substances from the waste rock piles and tailings ponds to groundwater and surface water. The principle pollutants included arsenic, lead and zinc. Several residents asked EPA to take samples of their private drinking water wells.

Despite these toxic release findings, the site wasn't listed on the NPL as a proposed Superfund site until 2000. According to EPA, the site was proposed "primarily because of the threat to the Red River fishery and nearby engendered species habitat from uncontrolled acidic, metal-laden runoff and acid rock drainage from the mine and the tailings pond." The mine contributes an annual discharge of over 15 million pounds of metals, sulfide and other substances to the Red River.

"The mine continues to be in operation and is releasing pollutants into air, water, and soils," said Brian Shields of the environmental group, Amigos Bravos. After tailing dust blew frequently and forcefully into the high school, the students had to be relocated, but "the school is now being used again, and children, teenagers, and community members continue to play and fish in the contaminated river."

The neighborhood adjacent to the mine has a higher rate of cancer, respiratory illnesses, learning disabilities, and other health problems associated with metal contamination from exposure to contaminated water and air migrating from the site. ATSDR concluded in a 2009 report that

there may be cause for concern, “but in typical ATSDR fashion, the agency refused to draw conclusions,” Shields emphasized.

Amigos Bravos did not receive a Technical Assistance Grant (TAG) to help the community review the technical data. However, the Rio Colorado Reclamation Committee, a group established for the specific purpose of overseeing the Superfund process, did receive a TAG grant. The process is definitely slow, Shields said, and Molycorp, the responsible party, is doing all of its own investigation with little independent oversight from EPA. Refinancing Superfund with polluter pays taxes would absolutely speed up the process says Shields, but until then, Amigos Bravos is on their own. “We’re still in the remedial investigation phase of the project,” he explained. “We are now beginning to get some data that may be useful in making a case for an accelerated cleanup.”

Brian Shields
Amigos Bravos
Tacos, NM

New York
Love Canal
Niagara Falls

Love Canal and the Birth of Superfund

"The plight of citizens at Love Canal outraged the American public and led to the passage of the Superfund law to find and clean up the nation's worst toxic dumps."- Lois Gibbs

The birth of Superfund is directly attributed to the Love Canal toxic waste site in western New York. The dangerous health and environmental hazards at Love Canal were so severe it became the catalyst in creating the Federal Superfund law. Decades later, Lois Gibbs, former leader of the Love Canal Homeowners Association (LCHA) and now CHEJ Executive Director, remains a visionary leader and continues to fight for Superfund justice.

The history of Love Canal began in 1892 when William Love proposed digging a canal to connect the upper and lower Niagara River and provide cheap power. He was forced to abandon the project, leaving behind a partially dug section of the canal, three thousand feet long. In 1920, the land was sold and chemical waste was dumped at the site until 1953. The principal company that dumped waste was Hooker Chemical Corporation, now a subsidiary of Occidental Petroleum.

In 1953, after covering the 70-acre canal with dirt, Hooker sold the land to the Niagara Falls Board of Education for one dollar. Included in the deed transfer was a "warning" that chemical wastes were buried on the property and a disclaimer attempting to absolve Hooker of any future liability. Ignoring the threats, the Board began constructing an elementary school on the property. Almost immediately, residents complained of odors and substances surfacing in their yards and the school playground. City officials covered the "substances" with dirt and placed fans in a few homes found to contain high levels of chemicals. This clearly was not enough to offset over 20,000 tons of toxic waste buried beneath the center of this community.

By 1978, the health threats were so severe that a Niagara Falls Gazette series of articles alerted Gibbs and others to the magnitude of the problem. She had been puzzled by the array of illnesses that frequently hospitalized her children, including epilepsy and asthma. Gibbs helped organize her neighbors into the LCHA. The group conducted a study of families living in the neighborhood, which found increases in miscarriages, stillbirths, crib deaths, nervous breakdowns, hyperactivity, epilepsy and urinary tract disorders. It also showed that from 1974 to

1978, 56% of the children were born with a birth defect, including three ears and double rows of teeth. When Gibbs presented these findings to state authorities, they quickly dismissed the study calling it "useless housewife data."

As a direct result of LCHA's fight, President Jimmy Carter ordered a total evacuation of the community in October 1980. The toxic waste crisis illustrated the need for government intervention and as a result in 1980 Congress enacted the Federal Superfund law to clean up the worst sites throughout the nation. "The plight of citizens at Love Canal outraged the American public and led to the passage of the Superfund law to find and clean up the nation's worst toxic dumps," said Gibbs. "The core principle of the Superfund program is that polluters, not taxpayers should pay to clean up these deadly toxic waste sites."

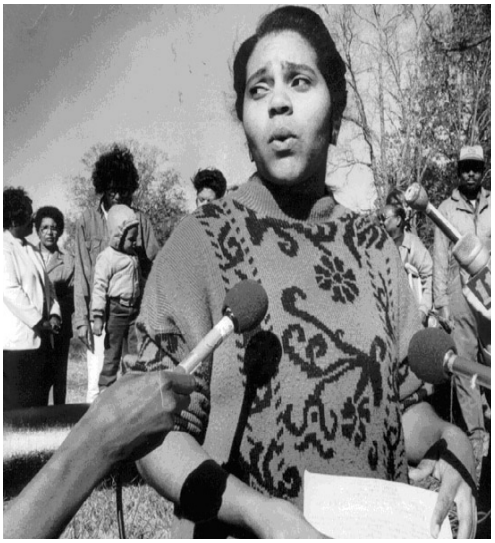
In 2008, on the 30th anniversary of Love Canal, Gibbs released a report critiquing a state Health Department final Love Canal study. Love Canal 30th Anniversary Report: NYS Department of Health's Final White Wash found that the state repeated many of the same errors made in 1978 by failing to ask the right questions in their final assessment of the families. Instead of obtaining actual health information from residents, the state is releasing partial data and incomplete results that exclude many former residents. Furthermore, the study excludes numerous health problems from people who were included.

"Thirty years later, I'm still fighting the Love Canal battle," said Gibbs. "Thirty years ago we had to fight to learn why our kids were getting sick, why they were developing rare illnesses. We had to fight to win evacuation. We had to fight for years to win a medical fund to help us with our medical bills. We continue to fight to get states to stop allowing schools to be built on toxic sites like the 99th Street School was. And now we have to fight again to get the Department of Health to fully study and present findings about the real results from Love Canal—not just partial data. We don't want a whitewash, we want the truth," said Gibbs.

Lois Gibbs
Formerly with Love Canal Homeowners Association
Center for Health, Environment and Justice
Falls Church, VA

North Carolina
Koppers Company, Inc.
Morrisville

Community with Long History of Activism, Wins One More Victory



Nathanette Mayo at 1992 Press Conference in Shiloh.

The unincorporated, historic African-American community of Shiloh was formed by families of freed slaves over five generations ago. "The Koppers Company's wood treatment plant, which used PCP and toxic metals to prevent the decay of wood products, was once the largest employer in Shiloh," said Hope Taylor-Guevara, now executive director of Clean Water for NC, but previously a Technical Assistance Grant (TAG) advisor working for the Shiloh community during the clean up. Koppers acquired the 52 acre site, located about 1 mile northwest of Morrisville, in 1962. From 1968 to 1975, wood was treated with pentachlorophenol (PCP), and the wastewater from the process was dumped into a pond and two unlined lagoons. The site was added to the NPL in 1989 because of contaminants found in drinking water wells, fish and pond sediments.

After the lagoons were closed in 1977, liquid from the lagoons was sprayed over an area of the site and the sludge was mixed with soil and spread over the lagoon area. In 1980, PCP was found in on-site soil, wells, pond water and sediment. Some PCP-contaminated soil was removed, but much of it remained on-site until the cleanup. Site runoff drained into creeks, ponds used for fire protection and ponds used for fishing and irrigation of garden crops. Additionally, an estimated 2,200 people get their drinking water from groundwater within three miles from the site.

Community health concerns included "dioxins (and chemically similar furans) found in on-site soils and sediments, as well as in fish," said Taylor-Guevara. Some well samples found levels above the state's maximum contaminant level. "The community experienced high levels of cardiovascular disease, Alzheimer's, and cancer," said Taylor-Guevara, "and many died of cancer before the site was listed on NPL." Although some drinking water was brought in, exposure through showering and washing continued for over a year.

Some struggles with Superfund included the pace, as well as the EPA's reluctance. "It was clear that EPA Region 4 was unwilling to put pressure on the responsible party to do additional studies

of contamination and appeared much more attentive to industry needs that community concerns," said Taylor-Guevara. However, EPA did give the community a good deal of say in who did the cleanup and how it was done. "It took continued pressure by the community, but in the end they let the community take a lot of the lead," she noted.

Concerned citizens such as Ruby Mayo, her daughter Nathanette and Peggy Medlin, worked with the community's Shiloh Coalition and other residents to form the Clean Water and Environment Project for Shiloh. They aimed to get local residents more involved, and succeeded in hiring a technical advisor using a TAG grant.

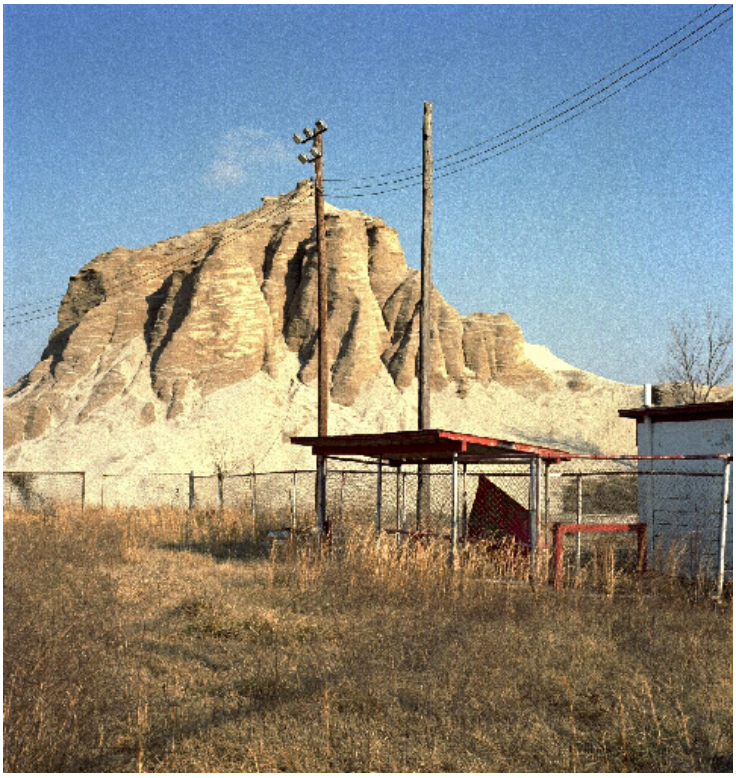
Other cleanup actions included the installation of three more miles of public water supply lines to affected homes near the site, more soil removal and water treatment. Shiloh residents claimed a victory "in its struggle to remain a rural enclave" when the EPA did a series of comprehensive well-sampling events as they felt this helped ensure their "right to safe well water." Homes with contaminated water have been put on public water supplies for now. The community continues to review annual reports concerning their groundwater pump and treat system which has been working reliably for many years. EPA did a second five year review of the cleanup and has come back to do additional sampling of fewer wells.

The community also tried to make sure the site did not get redeveloped for housing, and most of the paved over area is now commercial and industrial. At the same time, more families are selling their rural homes. It had been a unique enclave in the middle of high-tech development, but the rate of development has overwhelmed the community as land prices have substantially increased.

Hope Taylor-Guevara
Clean Water for North Carolina

Oklahoma
Tar Creek Site
Ottawa County

Century-Old Mine Leaves Lead Poisoning In Its Wake



Lead and zinc ming waste pile in Picher, Ok.

The 47 square miles in northeast Oklahoma, a portion of over 500 square miles in the Tri-State Mining District of Missouri, Kansas and Oklahoma, is called the Tar Creek Superfund Site. It was listed on the NPL in 1983. The site is named after the stream that takes acid mine drainage to the Neosho River before depositing it in the Grand Lake o' the Cherokees, a state recreation area and a drinking water source for surrounding counties. Since 1983, the Local Environmental Action Demanded Agency, Inc (LEAD) has taken the control of the situation doing intensive research and working with the community and the authorities.

At first, the designation of abandoned lead and zinc mines as the Tar Creek Superfund site gave EPA the funds to work on cleaning up the site, even though the potentially responsible parties (PRPs) were not cooperating, noted LEAD Agency members Earl Hatley and Rebecca Jim. But now depletion of the Superfund has negatively impacted progress of the site. The implementation of a new operable unit dealing with the non-residential portion of the site was stalled for several years due to lack of funding from Superfund and the stalling tactics of PRPs.

In 2006, a subsidence report was completed and indicated that the epicenter of the Tar Creek site—the towns of Picher and Cardin, and the Hockerville area—could be at risk for a cave-in because of the undermining beneath the towns. When EPA announced another operable unit for the site, citizens, the media and the state of Oklahoma pressured EPA to include a buyout, or the state would not sign it. The voluntary buyout is in process and is set to be completed in early 2009.

There is a closing date for the Tar Creek Superfund Site, say LEAD Agency members. Thirty

years from now is the estimated time it will take to dispose of the contaminated lead and zinc mining waste left at this abandoned site. What neighboring states must watch for is the substance coming into their communities as "gravel". Through new sale regulations, the "chat" mining waste must be protective of human health. These regulations may reduce the number of buyers and slow down sales, but the EPA plan allows for sales to continue for ten years before the overall footprint is reduced.

The good news has been that lead levels for children are going down. The EPA efforts and the widespread education united the community. Hatley and Jim note that since both were happening at the same time, credit cannot be given to either. The LEAD Agency found that once EPA was poised to begin real work at Tar Creek because of the evidence that children had been lead-poisoned, the Superfund monies were already used up. So, EPA began negotiations with the polluters and asked Members of Congress to request funding. "In other words," says Hatley and Jim, "it took an Act of Congress to get us this far. If the Superfund taxes are reinstated, our community and others will not have to wait so long for action."

In the last two years, Ottawa County faced two major ice storms, leaving many without power for weeks in freezing weather, a major flood and an F-4 tornado. Each event damaged property, but the tornado took seven lives. The flood damaged over 500 homes. Then the tornado destroyed over 200 homes.

LEAD Agency partnered with Harvard to research the effects of mining on the environment and health that began with a tooth fairy project. With an extensive birth cohort, children are being followed until they turn seven. Tar Creek was one of the eleven federally funded Children's Centers which focused on the multiple metals at the site. "Still many questions are waiting to be answered," said Hatley and Jim. "Can the children be protected? Are the fish safe to eat? Is the air safe to breathe? When will it be possible to swim in the creek again? Now with the Oklahoma fish consumption guidelines, with the new EPA lead standards, we know more about the air we breathe, and with the new OU5 projected, it looks like in five years, we may be able to swim in Tar Creek again."

Earl Hatley and Rebecca Jim
Local Environmental Action Demanded Agency
Ottawa County, OK

Oregon
Portland Harbor
Portland

After Years of Toxic Abuse, Superfund Shows Light at End of Tunnel

"*There are more than 80 companies that could be found to have contributed pollution to the site. And for the public to have borne half of that investigative cost is unacceptable.*" Jane Haley-Harris of Oregon Center for Environmental Health.

There is no denying the fact that the Portland Harbor is one of the tragic examples of industrial toxic waste pollution. Only three decades ago, the Willamette River and Portland Harbor were featured on the cover of the National Geographic magazine as an example of a river brought back from the dead. But, since 1972, the harbor was the victim of toxic abuse, resulting in EPA listing Portland Harbor as a Superfund site.

Portland Harbor began accumulating toxic waste in the early 20th century. It is comprised of a very large area spanning nearly six miles of the Willamette River. According to Oregon State Public Interest Research Group (OSPIRG), there are roughly 70 potentially responsible parties that have performed many operations, including petroleum product storage, agricultural chemical production and chlorine production.

In the 1990s, the state and EPA conducted sediment studies and found soil in the harbor and its uplands contained high concentrations of toxic contaminants, including heavy metals, DDT and PCBs. This led EPA to add Portland Harbor to the NPL in 2000. Now, the site is undergoing a remedial investigation and the full extent of the contamination is still unknown.

The high levels of toxic chemicals found in the Harbor were alarming because the area is extensively used for fishing. To address this issue, the state issued a fish consumption warning to residents for the entire main stem of the Willamette River. Unfortunately, the warning has not had the deterrent effect that was envisioned, and fishing is still practiced on a regular basis.

The Federal Superfund program has been helpful in getting action on the harbor pollution. EPA has compiled a list of potentially responsible parties, initiated a remedial investigation and set up a Community Advisory Group to keep residents plugged into the cleanup process.

OSPIRG believes progress is being made as Superfund has a process set up to define what will be required to clean up the Portland Harbor. It's become increasingly apparent that without Superfund, the Portland Harbor would likely have been destined to remain an unfortunate victim of industrial pollution. The state is still investigating sources of contamination to the Willamette River. Early cleanup actions are targeted towards removing an area in the river heavily contaminated with PAH's.

In 2007, the City Commissioner decided to reveal the cleanup costs to sewer and storm-water rate payers for transparency, and the bill totaled an astonishing $4.50 for every three months per rate payer. Jane Haley-Harris, Executive Director of the Oregon Center for Environmental Health, remarked that, "So far half of this total has been paid by public entities. There are more than 80 private companies that could be found to have contributed pollution to the site over the years. And for the public to have borne half of that investigative cost is unacceptable."

Jane Haley-Harris
Oregon Center for Environmental Health,
Portland, OR

Pennsylvania
Occidental Chemical Corporation
Lower Pottsgrove Township

Superfund Site Can Transition to Solar Park

"*This site has been a Superfund Site since 1989, yet very little in the way of actual cleanup has occurred.*" Donna Cuthbert

Since 1999, the Alliance for a Clean Environment (ACE) has been fighting to clean up the Occidental Chemical Corporation Superfund site in Lower Pottsgrove. The site's extensive contamination is the legacy of more than four decades of disposal and chemical spills by the site's owners, Firestone and now Occidental Chemical. Chemicals including trichloroethylene, vinyl chloride and metals have seeped into the groundwater. Occidental is bordered on three sides by the Schuylkill River, a source of drinking water for two municipal systems. In addition, two aquifers underlie the site, plus there are 147 private wells within 1 mile.

Based on major groundwater contamination, in 1989 EPA added the 257-acre site to Superfund. One of the sources was four unlined and uncovered lagoons, piled high with toxic dioxin-laden sludge. They should have been removed right after the Record of Decision was completed in 1993, notes Dr. Lewis Cuthbert, President of the ACE. After years of needless delay, Occidental finally removed the lagoon wastes off-site in 2008. ACE believes that happened largely through efforts of the public interest scientist, Dr. Henry Cole, hired with three Technical Assistance Grants.

"Unfortunately, the lagoon cleanup only removed part of the contamination and EPA is allowing Occidental to walk away leaving our community with a toxic legacy that will continue to contaminate water for decades, if not forever. Pottstown has had more than its share of environmental insults," said Cuthbert. She noted that childhood cancer rates are far higher than national and state averages, according to the state cancer registry. Infant mortality and neonatal mortality rates in the area around Occidental are far higher than the state average, and even

higher than Philadelphia and other larger nearby cities. Learning disabilities in the county more than doubled state increases from 1990 to 2000.

Now, ACE is supporting a site redevelopment that will minimize exposure since they did not get a thorough cleanup. The cleanup of only the lagoons still leaves large quantities of waste in two landfills and unknown levels of contaminants in soils and sediment. EPA failed to hold Occidental accountable to completely clean up the site. So, instead of a cleanup allowing the site to be safely used for homes or recreation, EPA is using Institutional Controls for the company to avoid a full cleanup. ACE is recommending the site be a solar park for energy, instead of another polluting industry to further jeopardize this region.

ACE would like to work with Occidental, EPA and the state to ensure that the site is redeveloped in a safe and sustainable manner and that nothing is brought in that will add more pollution to surrounding neighborhoods. ACE believes that a solar energy installation designed to provide electricity and/or hot water is one of the best ways to accomplish these goals and minimize exposures.

"The time is now ripe–after years of inaction, the political environment for safe and renewable energy is on the upswing," said Dr. Cole. "Why not cover contaminated sites like Occidental with solar panels to provide electricity sustainably? The last thing the community needs is another combustion source like power plants or incinerators that add global warming emissions and contaminate communities."

Dr. Lewis Cuthbert of ACE added, "Shifting to safe and sustainable development is especially important given highly elevated cancers and other environmentally related illnesses. Moreover, the site's green restoration can lead to economic revitalization and job creation across the region."

Donna Cuthbert
Alliance For A Clean Environment
Pottstown, PA

Puerto Rico
Atlantic Fleet Weapons
Vieques, Puerto Rico

Vieques Citizens Still Fighting World War II In Their Backyards

"*The community feels strongly that the EPA does not have the resources to supervise the cleanup process,*" said Roberto Rabin at a CRDV group meeting.

The end of World War II marked the end of fighting and a victory for the United States, but for the people of Vieques it marked the beginning of destruction. For more than half a century after the war, the U.S. Navy used the Island of Vieques for bombing practices and other military exercises, creating horrific environmental and health disasters. According to EPA, the eastern end of Vieques was used for all aspects of naval gunfire training, including air-to-ground ordnance delivery and amphibious landings, as well as housing the main base of operations. Operations on the western end consisted mainly of ammunition loading and storage and vehicle and facility maintenance.

"After decades of struggle to stop the bombing and reclaim their lands, the people of Vieques finally succeeded—after a four year, non-stop campaign of peaceful, non-violent civil military presence," said Nilda Medina of the Committee for the Rescue and Development of Vieques (CRDV).

In 2004, Vieques was added to the NPL via the Governor of Puerto Rico's use of the "silver bullet" mechanism. The governor of each state has the authority to designate one site in their jurisdiction to be included in the NPL without having to go through a selection process.

Listed as the Atlantic Fleet Weapons Training Area, the Vieques site includes the Eastern Maneuver Area, former Surface Impact Area, Live Impact Area and Eastern Conservation Zone. Extensive amounts of unexploded ordnance and remnants of exploded ordnance or weaponry have been identified in the range areas and surrounding waters. Hazardous substances include

mercury, lead, copper, magnesium, lithium, perchlorate, TNT and depleted uranium. At Camp Garcia, the hazardous substances also include PCBs, solvents, and pesticides.

These hazardous pollutants negatively affected Vieques' growing tourism industry. Both visitors and the 9,300 residents of Vieques access beaches, fisheries, and recreational waters that may be impacted by past military training. After the Navy activities ceased, large portions of the impacted areas were set aside as a wildlife refuge, which is home to at least 25 endangered species.

"Since the Navy created the toxic mess, they must conduct a cleanup according to federal regulations," said Medina, who was nominated for the 2005 Nobel Peace Prize for her environmental work. "Now that Vieques is a Superfund site, the cleanup process should follow the Superfund guidelines," she said.

On the western end of the island, the remedial investigations were governed by a non-NPL Superfund process. On the eastern end, the EPA is now working with the Navy to develop a cleanup plan. As part of this process, EPA claims to have developed a comprehensive public involvement plan, but the community completely disagrees. As evidence, they point to the agency's recent failure to notify the community about the agency's plan to resume "bombing" by openly detonating unexploded bombs in the ex-bombing range as part of the "cleanup." The EPA notified the local governing agencies, but said nothing to the community, who only found out about this plan by reading about it in the local newspapers.

"The community feels strongly that the EPA does not have the resources—either human or material—to monitor or otherwise supervise the current cleanup process," said Roberto Rabin, a CRDV member. "And, with cutbacks in the Superfund budget, it's not clear there's any help on the way unless the polluter pays tax is reinstated. We energetically demand the Superfund monies be used to support efforts to monitor the cleanup of U.S. military contamination of Vieques," said Medina.

In 2007, the EPA signed an agreement with several organizations and jurisdictions for the cleanup plan. Carlos Lopez Freytes, the Puerto Rico Environmental Quality Board President, confidently asserted that "the agreement represents an achievement for the Commonwealth of Puerto Rico because it guarantees the involvement of the Environmental Quality Board, as co-regulators, on the decision-making process of the cleanup. Our agency is truly committed to having an active participation in order to ensure that the concerns of the community of Vieques are addressed, the local regulations are followed and the cleanup is fair and comprehensive." So far, the EPA is still in the beginning stages of the cleanup. Studies have shown a clear correlation between the environmental damage and heightened human health risks, and EPA is determining whether there are ongoing human exposures to contaminants and investigating groundwater.

Roberto Rabin
Comite Pro Rescate y Desarrollo de Vieques
Vieques, PR

Tennessee
Memphis Defense Depot
Memphis

Community Faces Off Against Big Government in Superfund Fight

"They should pay and they should make sure communities around the site are taken care of. It shouldn't be up to the community to prove anything. It should be up to polluters to prove they did not do anything." - Doris Bradshaw

In 1942, the U.S. military began dumping chemical weapons in a region of south-central Memphis that included residential, commercial, and industrial areas. More than 150,000 people obtained their drinking water from public wells within four miles of the site. The area became known as the Memphis Defense Depot as residents realized the hazardous effects of living inside the government's garbage dump.

"Chemical weapons, solvents, all types of VOCs, PCBs, and over 289 known carcinogens were found on the site," said Doris Bradshaw. Among the wastes disposed of at the site are oil, grease, paint thinners, methyl bromide, pesticides and cleaning fluids.

The 642-acre site, which was listed on the NPL in 1992, has been around for more than 50 years. It consists of two sections: Dunn field, an open storage and burial area of about 60 acres, and the Main Installation. The Depot provided material support to all U.S. military services during its operation and these activities resulted in leakage, spillage and disposal of out-of-date materials and the regular application of pesticides. According to the EPA, the Army disposed of leaking mustard bombs at Dunn Field in 1946 and contaminated the groundwater with chlorinated solvents and heavy metals.

The Defense Logistics Agency, one of the responsible parties, agreed in 1996 to an interim cleanup to address the groundwater contamination. A barrier well system was installed to prevent migration of contamination and waste excavation was the next remedial action scheduled for the site.

"Even if you accept that the contamination is being sequestered now, residents were drinking the contaminated water up until 1954," Bradshaw notes. People were also exposed to toxic chemicals through open pits that burned waste. "There's a lot of thyroid disease here, which is related to radiation poisoning," she said. "Stomach cancer is the number one problem. We've also had a few 13-year old ladies getting uterine cancer." Other health issues include kidney failure and cancer, liver cancer, brain tumors, bladder cancer, brain cancer, and colon cancer.

Bradshaw said the ATSDR did a health assessment, but they didn't look at the community, only the workers. The study found that a large number of workers ended up with liver cancer and unusual brain tumors. "But they couldn't get all the records they needed," she said. "The government stopped the program right in the middle because they said it was too personal." Bradshaw believes they never addressed their health issues. "ATSDR is not a health agency," she said. "People need to stop addressing them as a health agency. They're only a site evaluation agency. They have blinders on when it comes to off-site exposure to waste."

Trouble dealing with the government led the community to steer clear of any other help it was offering. Instead of getting a Technical Assistance Grant, the community used their own scientists and technical assistants. "It was a choice we made early on," Bradshaw stressed. "We didn't want government money to fight our own case. The people doing the poisoning become the lead agency for the site and they don't follow the rules."

Although Bradshaw and her group did not want federal money, they do want polluter pays fees reinstated for Superfund. "I think a polluter should pay regardless if its Superfund or a federal agency," she emphasized. "They should pay and they should also make sure communities around the site are taken care of. It shouldn't be up to the community to prove anything. It should be up to polluters to prove they did not do anything."

In 2001, a plan outlined promised cleanup measures. A study of groundwater treatability was conducted in 2004, and remedial action to purify groundwater started in 2006. Experts are investigating whether there are any polluted soil would inhibit the success of groundwater remedial actions. An estimated 154,300 lives obtain their drinking water from a well within 4 miles of the contaminated site, so safe drinking water must be available as soon as possible, says Bradshaw.

In 2004, a Record of Decision was signed. So far, the burial areas have been excavated and soil vapor extraction has removed toxic "volatile organic compounds" in sand and gravel areas with 9,000 pounds removed. A revised Record of Decision will be implemented in the 2009 with more soil and water treatment methods.

Doris Bradshaw
The Defense Depot of Memphis Tennessee
Memphis, TN

Texas
Koppers Co., Inc. (Texarkana Plant)
Texarkana

An Environmental Injustice: Subdivision Built on Superfund Site

"*Without Federal Superfund, a difficult matter would have been made more difficult. But even with Superfund, it was a major task to get EPA to move along and that came only with Congressional help and pressure.*" –James Presley

Patsy Oliver, Talmadge Cheatham, Jeter Steger, and the wife and daughter of J.E. Fields, all had something in common. They cared about their community. They wanted to take action against the injustices that invaded their homes. The commonality didn't end there, however. These community leaders were all victims of those same injustices they fought against, eventually losing their lives to the widespread dangers of living in the Texarkana region. And these names only represent the tip of the iceberg, said Jim Presley, a member of Friends United for a Safe Environment (FUSE). "The enumeration of deaths became virtually impossible," Presley said. "There was no central registry or a way back to track mortality, and certainly not morbidity."

The reason for this death toll dates back to 1910 when the National Creosote wood treatment plant began operating. In 1960, the plant shut down and the land was sold to businessmen who developed it as the Carver Terrace Subdivision, intended to house middle-class African Americans. None of the 75 African American families who eventually lived there were told the site was contaminated.

The residents only slowly became aware of the risks associated with their location. Soon pets grew sick and died, vegetable gardens became stunted, strange blackened dirt began to bubble up especially after rains, and eventually residents began to fall sick. "In 1987, some residents who had long experienced health problems, joined together to sue the Koppers Company," said Stella Capek, a sociologist from Hendrix College. "This was the first public 'justice' claim, and it took a legal form."

Though it was not originally responsible for the pollution, Koppers Corporation became the responsible party by virtue of purchasing the site and its assets and liabilities. Creosote and chemicals used in wood treatment were found on site including arsenic, polynuclear aromatic hydrocarbons (PAHs), fluoride compounds and dioxins. Later, several "hot spots" were found in the subdivision.

Community health concerns grew as residents began to exchange notes related to cancer, reproductive problems, childhood disorders, dermatological conditions, and other medical issues. On one block, five of eight houses had people who either had liver, kidney or parathyroid problems, wrote Don Preston, a FUSE member. "These health problems were symptomatic of exposure to PAHs, the chemical of main concern at Carver Terrace. This should have been enough to evacuate the whole community, but it wasn't," said Preston.

In 1986, the Carver Terrace Subdivision was added to the Superfund. This brought in ATSDR who reported that fish should not be eaten from a nearby stream and noted some contaminants could cause serious health effects. No attention was paid to this study until FUSE and the Carver Terrace Community Action Group publicized it.

With the assistance of national environmental organizations, the Carver Terrace story became known nationally. "For a long time there seemed to be little official federal and state enthusiasm for moving the people out," Presley recalled. "EPA's remedy was soil washing while the residents remained in their homes and on the site." EPA, which earlier had insisted, "We don't do real estate," eventually agreed to a buyout and relocation in the early 1990s. Once the residents were moved out, the site was fenced in and the two entrances/exits to the subdivisions were locked shut.

Presley said Superfund did eventually protect residents from further exposure by buying out the residents and relocating them. "Without Federal Superfund, a difficult matter would have been more difficult," he said. "But even with Superfund, it was a major task to get EPA to move along, and that came only with Congressional help and pressure. Better and more serious attention to the complaints of citizens could have expedited the process in Carver Terrace."

EPA is still deciding upon the best remedial action. A 2007 field sampling was done and traditional clean-up options were tested and shown to be inadequate in cleaning up the site's massive contamination. Capping did not reduce the size or toxicity of contaminants, chemical and biological treatment were only partially effective, and off-site thermal destruction was felt to be too costly and potential transportation risks undermined the benefits. The lack of a clear solution to the pollution at the Texarkana area testifies to the complexity of this site's problem.

James Presley
Friends United for a Safe Environment
Texarkana, TX

Utah
Kennecott
Western Salt Lake County

Superfund Site Languishes Due to EPA Inaction

"*Superfund was the Sword of Damocles for all the company's allegedly 'voluntary' cleanup work. No one should labor under the illusion that $250-$300 million would have been spent...had Superfund not been a threat.*" Ivan Weber

Ivan Weber, who was at the forefront of the battle to clean up the Kennecott site in Salt Lake County says, "This was a war zone." Weber shirked the traditional role of a combatant and fought for both sides, blurring the line between the two and making one think twice about their strict separation. The players: Utah environmental coalitions versus Kennecott Utah Copper Corporation. The stakes: a final listing on the NPL, the fate of the Great Salt Lake ecosystem and much of the groundwater in the region.

The site, which is so large it was split into "North" and "South," was proposed for the NPL in 1994 and has languished there for more than a decade. In 1995, Kennecott, EPA, and Utah signed an agreement, saying EPA would defer final listing if Kennecott continued cleaning it up.

This proposed Superfund site was created by careless handling of industrial waste and mining activities that began in the 1860s. Mining waste was deposited in creeks and flood plains, resulting in high levels of lead and arsenic throughout the area that pose substantial health threats. Selenium is one contaminant which birds are extremely sensitive to noted Weber. Groundwater contamination has been traced to an unlined reservoir Kennecott built in 1965. Between one and seven million gallons of extremely acidic, metal-laden waters leaked into the aquifer every day for twenty-five years.

ATSDR conducted an extensive risk evaluation, but EPA allowed Kennecott to do its own ecological risk assessment. "This, in my opinion, led to a compromised set of studies and reports, subsequently contributing to the present flaws in groundwater problem resolution," said Weber.

In 1986, Utah filed a natural resource damage claim. Weber became involved in 1991 by filing an amicus brief, on behalf of a coalition including the Utah Sierra Club and the Mineral Policy

Center (Earthworks). A year later, Kennecott hired Weber to work on the remediation projects. "I was archivist and report writer for the cleanup projects and investigatory actions," he explained. "There were a few key reports and analyses, I've learned, to which I was not given access however, and several critical strategies to which I was not privy, resulting in a regrettable disposition of groundwater treatment concentrates to the Great Salt Lake and Kennecott's adjacent Tailings Impoundment."

The natural resource damage claim was folded into the surface cleanup in a manner that was "reprehensible," said Weber. Instead of doing what CERCLA allows, forming a community advisory group and a technical advisory group, EPA and Utah agreed to form only the latter for the South area with membership that was heavy with administrative and company representation. "As a Kennecott employee, I made it clear for years that I couldn't be regarded as a Sierra Club representative, therefore, environmental representation was absent," Weber emphasized.

Although other companies used the site, Kennecott bears the prime responsibility. To date, Kennecott has spent $290 million, while ARCO has spent $37 million, according to EPA. More than 25 million tons of mining wastes have been removed.

"Superfund was the Sword of Damocles for all the company's allegedly 'voluntary' cleanup work," Weber said. "No one should labor under the illusion that $250-$300 million would have been spent for site investigation-characterization, source control, cleanup and closure, much less for subsequent land use change planning, had Superfund not been a threat."

Weber believes Superfund failed to withstand the onslaught of the 104th Congress' attacks, and has inevitably weakened due to lack of funding. "The attacks rendered EPA administrators powerless, toothless, and gutless in the face of Congressional intervention, stimulated by aggressive company lobbying," he said. "With Bush in the White House and former Utah Gov. Mike Leavitt at EPA, Kennecott is one of the most influential corporations in America. Disproportionately so, in fact."

Kennecott divided their clean-up project into short-term and long-term segments, first focusing on treating soil and contaminated water in ponds and wetlands. Kennecott and the EPA also recognize the need for immediate groundwater treatment, especially because the migration of contaminated groundwater has not been effectively controlled, says Weber.

Ivan Weber
Weber Sustainability Consulting
Salt Lake, UT

Washington
Asarco Site
Ruston and Tacoma

A Thousand Square Miles: A Copper Smelter's Impact

It is one of the nation's most polluted sites, following a near century of operation in an urban area with high levels of contamination.

In the 1890s, a copper smelter was built on Commencement Bay near Tacoma, Washington. The tiny town of Ruston grew up around the Asarco smelter, with most residents depending on the company for jobs. Although the smelter closed in 1985, Asarco left behind a toxic legacy for the communities of Ruston and Tacoma.

For decades, the media reported on smelter smoke, damaged vegetation and respiratory troubles among residents. There were citizen research efforts, lawsuits and union inquiries into unsafe working conditions from arsenic, lead, cadmium and other pollutants. The arsenic-contaminated ores made Asarco's smelter the country's chief arsenic producer and polluter.

Sherri Forch, a Ruston resident, remembered that, "When the wind went bad and the dust blew down, if there was smelter dust on your car and it damaged it, the smelter would pay for a paint job. They were a good neighbor--they could not control what the wind was doing with the effluent, but if you had damage, they reimbursed."

In the 1970's studies showed schoolyard contamination from the smelter and Steelworkers union activists launched The Smelterworker newsletter to examine the company's toxic releases and health problems among workers and residents. Editor Rodger Jones explained, "If they had concerns about the kids and their exposure to arsenic, what about people working at the plant?" The Smelterworker interpreted public health research and challenged the company doctor. Dr. Pinto claimed there was no significant damage from industrial exposure to arsenic, but he eventually acknowledged that arsenic elevated lung cancer risk among former smelter workers.

In 1983, the 97-acre facility became part of the Commencement Bay/Tideflats Superfund site. In 1985, Asarco shuttered the smelter for economic reasons, but the story ran as "environmental pressures close the smelter." It was considered one of the nation's most contaminated sites, following a near century of operation in an urban area with high levels of contamination.

In 1993, Asarco's stack was leveled but the region still struggles with Asarco's toxic legacy. Agencies and organizations, such as Citizens for A Healthy Bay and Washington Toxics Coalition, have shaped a long-term strategy for soil cleanup. Fifeteen hundred yards in Ruston/Tacoma have been cleaned, but tests show 1,000 square miles are impacted and need monitoring. State

Representative Upthegrove spearheaded legislation to clean up areas affecting children, including schools, daycare centers and parks, and the local Health Department has a Dirt Alert public education program.

The cleanup screeched to a halt in 2005 when Asarco filed for bankruptcy. US Senator Cantwell described Asarco's conduct as "abuse," and noted that a government report "confirmed [that]… corporate polluters are using bankruptcy and other corporate gimmicks to get out of their environmental cleanup obligations. Corporate polluters are contaminating our backyards and water, and then sticking us with the mess and the cleanup bill." Washington State is pressing for a settlement to support regional monitoring and a cleanup.

Serious concerns remain about the condition of the Asarco Superfund site. With EPA oversight, Asarco sold its property to a developer to build a waterfront urban village. This brownfield redevelopment is controversial. Jobs with Justice reported unsafe conditions for immigrant construction workers exposed to contaminated soils, and has pushed for affordable, low-income housing. Concerned citizens started a local newsletter, The Ruston Connection, to raise issues and share information with neighbors. Asarco boasts of a successful collaboration between government, company and community. But the complex bankruptcy and a troubled economy leave many wondering if they'll forever be haunted by toxic exposures and toxic debt noted Anne Fischel and Lin Nelson with the "No Borders" Project on Communities Living and Working with Asarco.

Virginia Carpio, a community leader, said, "In my view, so many people with power— the EPA, the developer, the majority of the elected leadership of Ruston—have, at times, smiled their way through the cleanup process in their eagerness to get this phase completed and move on to getting the site developed. Where is the definitive data from testing the toxicity of the site? Wouldn't providing the public with that information be the simple way to dispel doubts about the cleanup?"

Virginia Carpio, Ruston Connection
Ruston/Tacoma, WA

Appendix A
How Superfund Works

Administered by the federal Environmental Protection Agency (EPA) in cooperation with states and tribal governments, Superfund provides broad authority for the government to respond to chemical emergencies, such as toxic spills and fires, and to clean up sites. Superfund was created because toxic dumps were causing threats to human health, massive fish kills, wildlife destruction, air pollution, and contaminating drinking water supplies.[141]

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) created Superfund. The law directed EPA to respond to any releases of hazardous substances into the environment and any toxic releases that pose an imminent and substantial danger to public health, or a substantial threat of a release. EPA can do emergency removal actions to immediately contain or remove toxic wastes at a site or comprehensive removal actions to fully clean up a site.

To pay for these cleanups, the law created a Trust Fund of approximately $1.6 billion for site cleanups where a polluter cannot be located, or is bankrupt or refuses to take action.[142] The Superfund Trust Fund was financed by four fees and court awards from polluters responsible for hazardous releases. The financing enabled EPA to prevent future toxic disasters by quickly responding to toxic releases and then recovering expenses from the polluter. Under the U.S. common law, polluter liability must be determined before any action can be taken. The advantage of Superfund was that it provided EPA with the money to address a health-threatening toxic waste dump first and recover the costs from the polluter later.

Superfund was founded on the principle that those companies most closely associated with creating toxic waste sites and generating hazardous waste should bear the financial burden of cleaning them up. The Superfund Trust Fund monies have been used to clean up 30 percent of the sites, as well as fund enforcement, oversight and other EPA program activities. Approximately 70 percent of Superfund sites are cleaned up by the companies responsible for the pollution.[143]

EPA has three basic options to achieve a Superfund site cleanup: 1) conduct the cleanup itself and then seek to recover costs from the polluter(s); 2) compel the polluter to fund the cleanup thorough judicial or administrative proceedings; and 3) reach a settlement agreement with the polluter that requires them to pay for the cleanup.[144]

In 1986, Congress amended the Superfund program by approving the Superfund Amendments and Reauthorization Act (SARA) that strengthened the CERCLA law and increased the Trust Fund to $8.5 billion. SARA made the goal of permanent cleanup a priority, expanded agency investigations into human health problems from toxic exposure, and encouraged greater citizen

participation in the site decision-making process by providing technical assistance grants to community groups at Superfund sites.[145]

EPA's Office of Superfund Remediation Technology Innovation oversees management of the program. The agency created three mechanisms to establish cleanup standards and procedures. The National Contingency Plan (NCP) provides procedures to be followed by EPA, the states and polluting companies when conducting emergency removals and site cleanups. The Hazard Ranking System (HRS) is a numerically based screening system that evaluates and scores the environmental and health hazards of each site. The National Priorities List (NPL) identifies all the Federal Superfund sites that are national priorities and will undergo investigations and cleanups, funded either by the polluter or the Trust Fund. The HRS score is the primary method for determining whether a site is placed on the NPL.[146]

The goal of Superfund is to clean up the worst toxic waste sites in the nation and states often nominate a site for inclusion in the NPL. A few years after Superfund was created, a number of states found that hundreds of toxic sites were not being placed on the NPL since they did not meet EPA's "worst sites" HRS score. States, such as California and New York, created State Superfund programs often with similar hazardous waste fees to fund the clean up of these sites or created Brownfield site programs. For instance, New York refinanced its State Superfund and created a Brownfield site program to facilitate the cleanup of thousands of contaminated properties.

Appendix B
Superfund's Financial Foundation: Polluter Pays Fees

When Congress enacted the Superfund law, it established a series of fees for industries that use hazardous substances. Superfund is based on the national principle that polluters, not taxpayers, should pay to clean up toxic waste sites. It embodies the old adage, "if you make a mess, you clean it up." These fees funded the Superfund Trust Fund without financially burdening American taxpayers.

There were four fees, three of which were excise taxes on chemicals and petroleum, and one of which was a special income tax on corporations. The fees were reinstated in 1986 and 1992. Unfortunately, Congress failed to reauthorize them in 1995 and they were eliminated on December 31, 1995.[147]

The four fees generated about $1.6 billion annually, which was allocated to the Superfund Trust Fund. The fund was used to pay for the clean up of hazardous waste sites when the "responsible party" or polluter was bankrupt, unwilling to pay or could not be identified, as well as to pay for EPA's administrative and legal expenses in running the program. Other monetary sources aided the fund, such as general revenues from annual Congressional appropriations and cost recoveries from polluters liable for site cleanups.[148]

Superfund Fees

The four fees were the financial backbone of the Superfund program for more than 20 years. They included assessments on crude oil, chemical feedstock, imported chemical derivatives and corporate environmental income tax.

Crude Oil Tax: This was a tax of 9.7 cents per barrel (or 23 cents per gallon) on domestic refineries on the amount of crude oil they bought, and on importers on the amount of refined petroleum products they imported into the United States. This tax generated the largest revenue stream for the Superfund program.[149]

***Chemical Feedstock Tax*:** This was a tax on 42 toxic chemicals associated with dangerous substances at Superfund sites. It created a financial disincentive to use the chemicals resulting in an industry-wide reduction in the use of these substances. The manufacturer, producer or importer imposed the tax on the sale of a listed chemical. The tax ranged from $0.22 per ton to $4.87 per ton, based on the chemical, except for xylene that was taxed at $0.13 per ton.

Imported Chemical Derivative Tax: This tax was a complement to the feedstock tax to ensure that companies did not escape from paying the tax by importing chemicals that were produced overseas. It taxed 113 imported chemical substances containing or using any of the 42 chemicals listed in the feedstock tax.[150]

Corporate Environmental Income Tax: This tax was on the profits of large corporations at a rate of 0.12 percent on taxable profits in excess of $2 million (or $12 per $10,000). Corporations in the manufacturing industrial sector (such as chemical and petroleum products) and the mining sector would pay about 41% of this tax, and these same sectors are responsible for approximately 43% of all Superfund sites.[151]

The Clinton Administration proposed Superfund reauthorization in 1995, as well as two new environmental taxes on property and insurance companies.[152] Unfortunately, under both Presidents Clinton and Bush, the Superfund was never refinanced with polluter pays fees.

Appendix C
Superfund Budget History

Fiscal Year	Superfund Appropriation	Trust Fund Share	General Revenue Share
1981	$68	$68	$0
1982	$190	$190	$0
1983	$210	$210	$0
1984	$410	$410	$0
1985	$620	$620	$0
1986	$261	$261	$0
1987	$1,411	$861	$550
1988	$1,128	$889	$239
1989	$1,410	$1,260	$150
1990	$1,575	$1,575	$0
1991	$1,616	$755	$861
1992	$1,615	$1,381	$234
1993	$1,573	$1,323	$250
1994	$1,497	$1,247	$250
1995	$1,354	$1,104	$250
1996	$1,313	$1,063	$250
1997	$1,394	$1,144	$250
1998	$1,500	$1,250	$250
1999	$1,500	$1,175	$325
2000	$1,400	$700	$700
2001	$1,270	$636	$634
2002	$1,270	$635	$635
2003	$1,265	$633	$633
2004	$1,258	0	$1,258
2005	$1,247	0	$1,247
2006	$1,381	0	$1,381
2007	$1,218	0	$1,218
2008	$1,217	0	$1,217

Source: USEPA 2008

Appendix D
Summary of National Priority List (NPL) Sites in Each State

	Final NPL Sites	Deleted Sites*	Proposed NPL Sites	Total Sites
Alabama	13	1	2	16
Alaska	5	3	0	8
Arizona	8	4	1	13
Arkansas	9	6	0	15
California	94	12	2	108
Colorado	17	7	3	27
Connecticut	14	3	1	18
Delaware	14	6	0	20
DC	1	0	0	1
Florida	48	23	2	73
Georgia	15	4	1	20
Hawaii	3	2	0	5
Idaho	6	3	3	12
Illinois	43	2	6	51
Indiana	31	8	1	40
Iowa	11	10	1	22
Kansas	11	5	1	17
Kentucky	14	6	0	20
Louisiana	11	10	3	24
Maine	12	2	0	14
Maryland	17	5	1	23
Massachusetts	31	6	1	38
Michigan	65	20	2	87
Minnesota	25	23	0	48
Mississippi	4	3	2	9
Missouri	29	5	0	34
Montana	14	0	1	15
Nebraska	13	1	0	14
Nevada	1	0	0	1
New Hampshire	20	0	1	21
New Jersey	114	29	1	144
New Mexico	13	6	1	20
New York	86	24	1	111
North Carolina	31	5	1	37
North Dakota	0	2	0	2

Appendix D
Summary of National Priority List (NPL) Sites in Each State

	Final NPL Sites	Deleted Sites*	Proposed NPL Sites	Total Sites
Ohio	30	8	8	46
Oklahoma	10	3	1	14
Oregon	12	4	0	16
Pennsylvania	94	30	2	126
Puerto Rico	13	5	0	18
Rhode Island	12	2	0	14
South Carolina	25	6	0	31
South Dakota	2	3	0	5
Tennessee	13	6	1	20
Texas	45	13	4	62
Utah	15	7	4	26
Vermont	11	2	0	13
Virginia	30	5	0	35
Washington	48	22	0	70
West Virginia	9	3	0	12
Wisconsin	37	6	1	44
Wyoming	2	1	0	3
Totals	**1251**	**372**	**60**	**1683**

**Includes partially deleted sites.*
Source: USEPA 2008

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