© Jack Mecca

Aftermath of a toxic spill in Athens, Ohio: Leaching into the ground water, fuming into the air and buried in U.S. backyards

The Toxic-Waste Crisis

Hazardous chemicals menace towns and cities across the nation—and the threat is growing every day.

Sometime this spring the town of Times Beach, Mo., will begin to disappear. Most of its 2,500 residents will pack up and leave. Most of their 800 homes and 30 businesses will be sold to the federal government. What will become of the one-square-mile hamlet on the Meramec River still isn't clear. But its terrified residents are lucky to have a way out: they are escaping from dioxin, one of the most toxic substances known to man—and one that has killed hundreds of animals and threatens human health throughout their state. EPA Administrator Anne Burford herself traveled to Times Beach last week to announce the $36.7 million federal buyout of an entire town. At first, residents were relieved that their months of worry were over. Then the magnitude of their loss settled in. "This was a nice place once," said Evelyn Zufall, a mother of seven and resident for 29 years. "Now we have to bury it."

Times Beach was in the headlines, but the toxic wastes that destroyed it menace towns and cities across America—and the threat is growing daily. The dangers run from old, leaky landfills to illegal dumping and spills and accidents, and its dimensions are both staggering and unknown. Experts estimate that toxic chemical wastes fester in as many as 50,000 dumps across the country and that 180,000 open pits, ponds and lagoons at industrial parks also bubble with witch's brews. EPA officials say that at least 14,000 of the sites are potentially dangerous—posing fire hazards, threatening ground water or emitting noxious fumes—but environmentalists say that figure is low. U.S. industries, from giant corporations to neighborhood dry cleaners, generate some 88 billion pounds of toxic wastes a year, 90 percent of which, EPA estimates, are improperly disposed.

Some of the tough air- and water-pollution laws of the early 1970s, in fact, have only made the toxic-dumps problem worse. "We never stopped to ask the simple question, if it's not going into the air or the water, where is it going?" says Dr. Samuel Epstein, coauthor of "Hazardous Waste in America," an exhaustive study of the issue. But solving the problem will not be easy: experts estimate that the cost of cleaning up America's chemical dumps could run as high as $260 billion. No one knows precisely what health dangers most toxic wastes pose to human beings. But some scientists bluntly say they are terrified of the problem. "I've never really been scared until I started working on this issue," says Epstein. He and other environmentalists warn that the potential dangers toxic wastes pose to the country's land, water, air, public health and economy are second only to the threat of nuclear war. And toxics are already here—leaching into America's drinking water, spreading through its fertile fields and buried in its backyards.

It was May 1971 when Russell Bliss, a waste hauler, sprayed oil at Judy Piatt's stables in Moscow Mills, Mo., to help control the dust. A few days later hundreds of birds nesting in the stable's rafters fell to the ground and died. Soon, more than 20 of her cats went bald and died, as did 62 horses over the next three and a half years. Piatt herself developed headaches, chest pains and diarrhea, and one of her daughters started hemorrhaging. In 1974 the federal Centers for

Disease Control in Atlanta identified the culprit as dioxin and traced it to Bliss's oil, which contained wastes from a defunct hexachlorophene plant that had paid him to dispose of it. Bliss, it turned out, had sprayed the waste-oil mixture on horse arenas, streets, parking lots and farms throughout the state, leaving what state Assistant Attorney General Edward F. Downey called "a trail of sickness and death."

Although investigators suspected in the mid-1970s that the unpaved streets of Times Beach had been contaminated by Bliss, no tests were conducted there until last December. The EPA found dioxin levels of more than 100 parts per billion—100 times the level considered harmful for long-term contact. In December, after the Meramec River flooded Times Beach, CDC officials urged residents not to return to their homes. EPA officials decided on the buyout plan when more tests showed that the dioxin was still present. A few Times Beach residents insist that they will stay, that they aren't frightened by the poison they have lived with for 10 years. But other Missouri residents aren't so sanguine. Dioxin contamination—sometimes at even higher levels—has been confirmed at 21 other sites in Missouri, at two sites in Illinois and is suspected in some 80 other nearby locales. Most disturbing of all, about 40 pounds of the dioxin from the plant have never been accounted for.

Bryce Flynn—Picture Group

Protesting a Woburn, Mass., dump: 'I have an empty room'

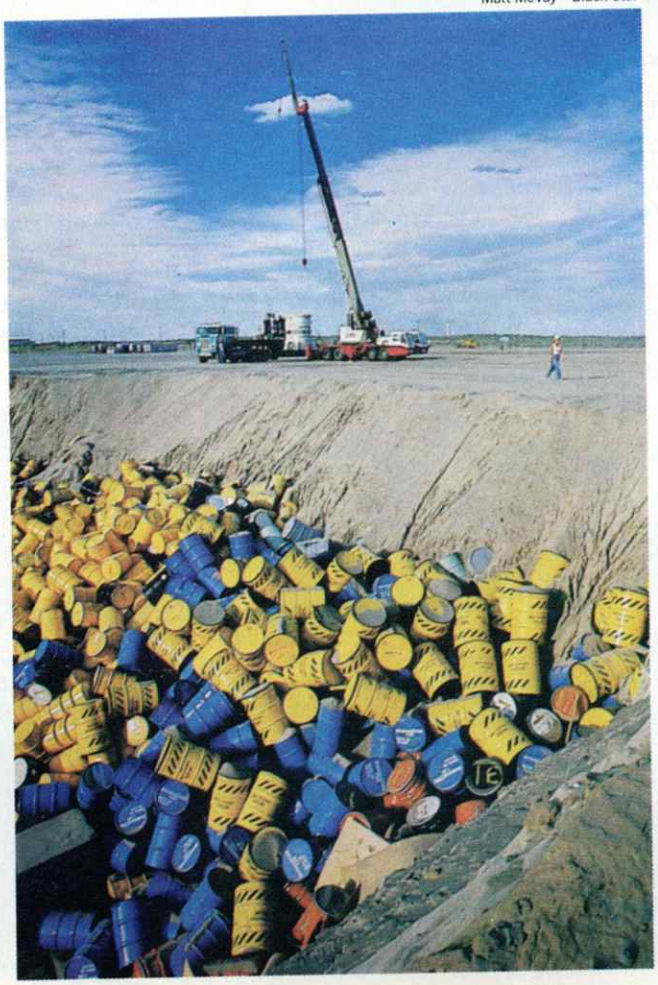
The Reagan administration's most amazing environmental accomplishment to date, critics say, is that it has managed to make Jimmy Carter's record look good. Federal action on hazardous wastes has been abysmally slow—and what laws have been passed have become bogged down in vast technical complexities. To regulate disposal of newly generated toxic wastes, for example, Congress in 1976 passed the Resources Conservation and Recovery Act, directing the EPA to establish safety regulations for landfills, penalties for violators and a national manifest system for tracking hazardous wastes from "cradle to grave." But it took the EPA four years and the threat of court actions to issue many RCRA regulations. And in practice, the law was fraught with loopholes. Businesses that generate less than one ton of toxic wastes per month are exempt from the rules, for example, as are wastes that are recycled or mixed with other products. Those loopholes, incredibly, would permit the Missouri dioxin calamity to reoccur—legally—anywhere in the United States today.

In 1980 Congress set up the "Superfund" program to speed the cleanup of the most hazardous existing sites. The five-year, $1.6 billion program was designed to allow the EPA to clean up the sites first and collect fines later, suing the dumpers, if necessary, to recover up to three times the cleanup costs. But there are Catch-22s in that law as well. It requires states to provide 10 percent of the cleanup costs for sites located on private property and 50 percent of the costs for those on public land. Only eight states have special state cleanup budgets. The other 42 generally cannot spare the money, disqualifying them from Superfund projects. "The word 'Superfund' conjures up the image of a massive pool of federal dollars sitting there waiting to be spent," says William Hedeman, EPA's director of Superfund. "But we can't spend a dime if the states can't make their contributions."

As problematic as those laws are, critics say the actions of the Reagan EPA have made them worse. EPA officials say their strategy of negotiating with generators and disposers of waste to initiate private cleanups—instead of using Superfund money—is aimed in part at eliminating the need for state contributions. But critics charge the EPA has let some firms off too easily by waiving future liability and settling for only superficial cleanups. The damage to RCRA has been more obvious. Although EPA did issue standards for landfills last year, it also successfully fought off a major effort in the Senate to close the RCRA loopholes, arguing that bringing small waste generators under the law would be overly costly and burdensome. Last year the EPA also suspended RCRA's requirement that waste generators and haulers file annual reports detailing what they did with their toxic wastes. EPA whistle-blower Hugh Kaufman likened that to abolishing income-tax returns—and still expecting the Internal Revenue Service to enforce the tax laws.

Nuclear waste in Washington State: Not in my neighborhood

Matt McVay—Black Star



Uncertainty: EPA spokesmen counter that the RCRA regulations were impossible to enforce. The agency lacked the manpower to review the paper trails of some 60,000 large hazardous-waste generators and 15,000 haulers each year—let alone verify them. But the sharp cuts in EPA's budget—a 48 percent decline in real dollars since Reagan took office—have hardly helped. Burford has repeatedly insisted that the agency is "doing more with less," but beleaguered EPA employees disagree, saying that many of EPA's efforts have ground to a halt. And even some chemical firms have been critical of EPA's

© Jack Mecca

Derailed trainload of wastes in Louisiana (1982): 'I'd never really been scared until I started working on this issue'

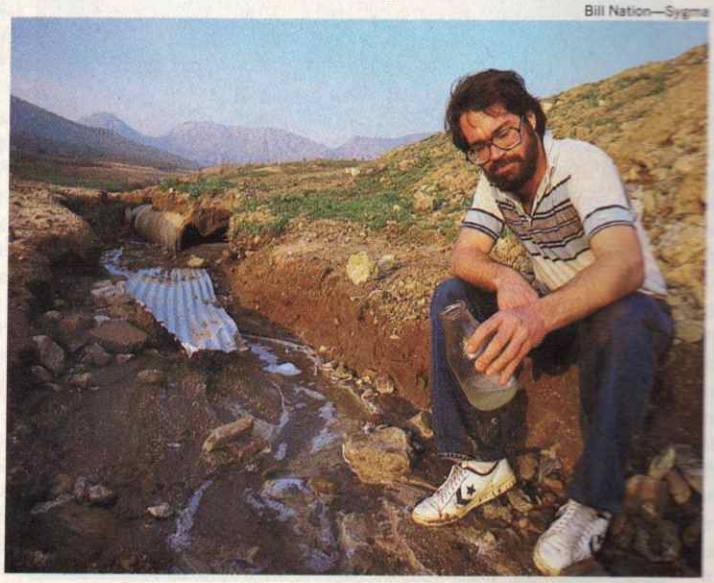
inaction, which frustrate their ability to plan ahead. "The big problem for us in dealing with EPA is not bad decisions, but no decisions," says Roger Ferland, an attorney for the Magma Copper Corp. "Uncertainty is one of the industry's greatest enemies."

In the rolling hills near Flint, Mich., behind a high Cyclone fence posted with warning signs, lie the remnants of Berlin & Farro Liquid Incineration, Inc., once a licensed disposal site for toxic wastes. The site was closed by health authorities in 1975. The firm was repeatedly ordered to initiate cleanups but repeatedly failed to do so—accepting more wastes even as late as 1979. State authorities have spent nearly $900,000 in their own cleanup efforts there to empty most of the lagoons that once contained mysterious blue liquids and a thick pinkish slime.

Experts aren't sure what poisons remain on the site, but what they do know frightens them: traces of C-56, C-58, zinc, copper, cadmium, lead, chromium and cyanide have leached into surrounding waters and are inching toward nearby Swartz Creek, which empties into the Flint River and eventually into the Great Lakes. More worrisome still, tests with ground-penetrating radar have shown that illegally dumped barrels may lie at the bottom of the thick toxic soup in one remaining lagoon, and investigators fear they may contain hydrochloric acid. If mixed with cyanide in the pool, a cloud of deadly hydrogen cyanide gas could form, and nearby residents will have just minutes to evacuate. "When I get up of a morning," says Verna Courtemanche, who has lived in the area for 28 years, "the first thing that crosses my mind is—will I be alive by nightfall?"

Sampling water at a California dump: Political considerations?

Bill Nation—Sygma



Many aspects of the toxic-waste problem fall between the cracks in federal laws—and one of the worst threats is to ground water. Once thought to be protected from pollution by natural filtration, aquifers and wells are increasingly at risk from wastes leaching out of dumps and other sources. But there are no federal standards for organic-chemical contamination in ground water and none for verifying that private wells are safe. "Ground water has an out-of-sight, out-of-mind quality to it," says Princeton University expert Bob Harris. But slowly local authorities are awakening to the ground-water problems. Totally dependent on aquifers and dotted with dumps and industry, New York's Long Island is particularly vulnerable; 28 of 428 public wells in Nassau County have already been

closed due to chemical contamination. Officials in Atlantic City, N.J., have shut down 4 of the 12 wells that supply the city with water because a plume of contaminants is seeping toward them from Price's Landfill, a notorious dump, at the rate of nearly a foot a day. The city hopes the EPA will come through with Superfund money to help bankroll nine new wells out of harm's way.

Transporting hazardous wastes is another area of vast concern. A spill or accident involving chemical wastes occurs, on average, once every day on California highways, state authorities estimate. The EPA provided rescue teams to some 400 major spills and emergencies nationwide last year. Some of the most serious accidents have occurred on railways. Last fall, near Livingston, La., 43 cars of a freight train carrying vinyl chloride, phosphoric acid and other hazardous cargo jumped a track and slammed into each other in a spectacular toxic mess. Explosions and fires raged for days at the site. Two tank cars turned into self-propelled rockets and were hurled hundreds of feet. Miraculously no one was hurt, but area residents who fled with only the clothes on their backs could not return to their homes for more than a week. In response to such horrors, state and local laws restricting shipment of hazardous chemicals are proliferating. But the federal Department of Transportation has challenged some ordinances, contending that the crazy quilt of local laws is disrupting interstate commerce.

Midnight Dumping: More alarming still is the shipment and disposal of hazardous waste that goes on outside the law. Law-enforcement officials warn that "midnight dumping" is a growth industry as more and more waste generators and haulers try to cut costs and skirt the technical problems of responsible disposal. Their methods are often disarmingly simple—abandoning loaded tank trucks in fields or on city streets, for example. Illicit dumpers have clandestinely offloaded into municipal sewer systems and garbage dumps that are not equipped to handle chemical materials. Truckers carrying hazardous liquids often "just drive down the Massachusetts Turnpike and open their spigots," says Paul Keough, EPA deputy administrator in Boston. But midnight dumpers are also becoming more wily. In Tennessee, some have sent freight cars loaded with hazardous wastes to fictitious addresses, c.o.d. Others have even devised ways to profit from their unwanted cargo. Last week a Senate subcommittee heard testimony on the growing sales of contaminated waste oil being mixed with common fuel oil to heat apartment buildings in New York City.

Lured by the big bucks involved and the generally lax law enforcement, organized crime has muscled into the toxic-waste-disposal industry. The extent of the mob's involvement in the business can only be guessed, but the telltale signs are there. In 1980, for example, six days after a House subcommittee heard testimony about the alleged ties of Waste Disposal, Inc., to organized crime, Crescent Roselle, an official of the firm's New Jersey subsidiary, was found murdered, gangland style, his body riddled with bullets. He was the third waste-disposal executive to be rubbed out in the Northeast in five years.

Concerned about her kids' splitting headaches and the foul stench in the air, housewife Bonnie Exner formed a citizens' group to investigate the nearby Lowry landfill in southeast Denver in 1980. Then strange things began to happen. She noticed a hollow, tinny sound on her telephone and no matter how quickly she called group meetings, a representative of the dump's owner, Chemical Waste Management, Inc., was always there. Several times, her car was tailed and chased at high speeds. Once, she found a smoke bomb planted in the car. The incidents stopped after she told her story to a local newspaper and the local district attorney assigned a detective to the case. Last July, the Lowry landfill—containing such known carcinogens as benzene, acetone and trichloroethylene—was closed by order of the Colorado Supreme Court, for lack of proper permits. But state Rep. Frank DeFilippo, a close friend of Anne Burford's, has introduced legislation that would grant Lowry "grandfather" status, allowing it to operate once again without meeting new state standards.

Understaffed and underexperienced in complex chemical processes and regulations, law-enforcement agencies have been slow to crack down on toxic criminals. But that is changing. At the Justice Department, Carole Dinkins, assistant attorney general for lands and natural resources, has formed a new environmental-crimes unit specializing in probes of illegal dumpers and flagrant polluters; 24 federal grand juries are hearing evidence on cases the Justice team and EPA have developed. Despite budget cuts, Dinkins's section has been granted 42 new positions to assist with Superfund prosecutions, and Justice has won consent decrees from hazardous-waste dumpers—including one for $24.5 million—that will help pay for cleanups. "You can't distinguish between someone who commits robbery and someone who writes out false transportation orders for hazardous wastes," says Dinkins. Late last year, the EPA also organized a team of some two dozen criminal investigators to track down toxic-waste offenders. But EPA's SWAT team has no authority to make arrests.

Some states and cities, meanwhile, have established their own toxic strike forces. Massachusetts last year trained 20 members of its state police as Natural Resource Officers. Los Angeles's new environmental-crimes unit includes police, firefighters, health officials and attorneys, and it has pioneered the intriguing concept of "sewer taps" to monitor illegal dumping into municipal sewer systems. New York State's Bureau of Environmental Conservation Investigations, started last summer, is currently pursuing seven felony investigations against illegal dumpers, but it has encountered an embarrassing problem: what to do with the evidence. Joseph Lynch, the force's commanding officer, is lobbying for funds to build a storage facility for the hazardous wastes his team amasses.

Another problem law-enforcement offi-

Bryce Flynn—Picture Group

THE DIRTIEST DUMPS

The EPA has identified 418 toxic-waste sites across the country for top-priority cleanup. The top 20:

SITE	CITY OR COUNTY AND STATE
FMC	Fridley, Minn.
Tybouts Corner	New Castle County, Del.
Bruin Lagoon	Bruin, Pa.
Industri-Plex	Woburn, Mass.
Lipari Landfill	Pitman, N.J.
Sinclair Refinery	Wellsville, N.Y.
Price Landfill	Pleasantville, N.J.
Pollution Abatement Services	Oswego, N.Y.
LaBounty Site	Charles City, Iowa
Helen Kramer Landfill	Mantua, N.J.
Army Creek	New Castle, Del.
CPS/Madison Industries	Old Bridge Township, N.J.
Nyanza Chemical	Ashland, Mass.
Gems Landfill	Gloucester Township, N.J.
Picillo Coventry	Coventry, R.I.
Berlin & Farro	Swartz Creek, Mich.
Tar Creek	Cherokee County, Kans.
Baird & McGuire	Holbrook, Mass.
Lone Pine Landfill	Freehold, N.J.
Somersworth Landfill	Somersworth, N.H.

Source: U.S. Environmental Protection Agency, December 1982

Lincoln J. Abraham—Newsweek

cials have encountered is the need to educate judges in the complexities of hazardous-waste issues. In Los Angeles, prosecutor Barry Groveman rigged up a complicated, 96-hour courtroom demonstration showing the effect of one chemical contaminant on flathead minnows, only to have the judge dismiss him bluntly, saying, "We don't have any flathead minnows in Los Angeles." Many states are stiffening penalties for toxic criminals, and prosecutors are pushing for jail sentences wherever possible. "If it costs a legitimate firm $200,000 to legally dispose of such wastes," says Jonathan Leo, Los Angeles's deputy city attorney, "anything less in the form of a fine is just the cost of doing business."

Residents of Los Paseos, a tree-lined development in California's high-tech Silicon Valley, used to think they lived among the "cleanest" industries in the world. But early last year they learned that chemical cleaning solvents had seeped into a local water well from an electronics firm's tank. About the same time, they noticed what seemed to be a remarkable number of birth defects in the neighborhood. They conducted a survey and filed a multimillion-dollar lawsuit against the firm, Fairchild Camera and Instrument Corp., and the water company, blaming them for 13 area deaths and medical problems ranging from congenital heart defects to skin disorders among 117 children. California state epidemiologist Richard Jackson agrees there is a high number of birth defects in Los Paseos, but says, "I cannot, at this point, say it is due to the water."

The difficulty of establishing links between toxic contaminants and human health problems shadows the entire hazardous-waste issue, and the links are likely to remain elusive. Only a very few substances are known to cause specific, unique diseases. The symptoms of the vast majority tend to mimic other common maladies. Dioxin, for instance, causes headaches, weight and hair loss and chloracne, a severe form of acne. Cancers may take 20 to 30 years to develop, or hide for a generation—and by then, it is virtually impossible to isolate a specific cause out of thousands of possible environmental or hereditary factors. Unable to conduct experiments on humans, scientists have had to rely on animal studies. But the data may very well not correlate to humans, leading some experts to suspect that the dangers of toxic wastes may be wildly exaggerated.

Other experts prefer to err on the side of caution. They point out that it took decades to establish the link between smoking and lung cancer, and they fear that the links between other environmental hazards and diseases may become tragically obvious in later years. "I'm not sure that there are any chemicals that have caused *fewer* health effects than we feared they would," says the CDC's Vernon Hauk. Fear about the possible problems plainly contributes to psychological stress among exposure victims, and their inability to obtain answers or even attention to the problem makes it worse. Clearly, more research into the whole question of environmental health dangers is needed, but the Reagan administration has cut back on the EPA's research budget and federal grants to private universities and foundations studying such questions.

Gerald S. Williams

Cleanup in Philadelphia: No incentives for solutions

In the old tannery town of Woburn, Mass. (population: 36,533), 22 children have developed leukemia since 1966. Only five have survived, and 11 lived within a half-mile circle near two wells that were closed in 1979 because of chemical contamination. State and federal authorities can't say for sure where the chemicals—including trichloroethylene and chloroform—came from, but the underground plume of contamination points northeast toward several manufacturing firms. Residents haven't waited for the results of more tests. They have filed suit against W.R. Grace and a leather manufacturer located there. Some Woburn residents—including the mayor—say that the toxic-waste problem is exaggerated. Those who are most concerned about the chemical pollution say the mayor is afraid of scaring away new industry or bringing property values down. "What do I care about property values?" asks Anne Anderson, whose son, Jimmy, died of leukemia last year at the age of 13. "I have an empty room."

Even without more solid evidence of the dangers, fear of hazardous waste has risen to such a level that it is virtually impossible to find an American community that will accept a new storage facility. Last fall 520 demonstrators went to jail in their efforts to block delivery of PCB-tainted soil to a state-selected dumping site in rural Warren Country, N.C. Since 1980, only one new storage facility has been approved anywhere in the nation, and as existing licensed landfills approach capacity, the problem is becoming critical. Tennessee, the nation's ninth largest state generator, has no licensed treatment or disposal facilities, and a state legislative committee has proposed offering a $500,000 reward to any community that will let one move in.

But many experts believe landfills can never be made safe and urge the use of other disposal methods. One of the most efficient is high-temperature, controlled incineration. Many toxic substances can also be "detoxified" by treating them with chemical neutralizers, physical pressure or mutant bacteria known as "superbugs." West Germany now detoxifies an estimated 85 percent of all its hazardous wastes. But perhaps the most sensible "disposal" method of all is resource trading: one company's unwanted byproduct may be another's raw material. Currently there are 20 regional waste clearinghouses in the United States, but they handle only a tiny fraction of the total volume of hazardous waste.

Unfortunately, dumping is still the cheapest means of disposal, and there is virtually no incentive for industry to do otherwise. The federal government could encourage hazardous-waste producers to find safer methods—by sharply restricting what materials can be dumped, for example, by imposing tax penalties or by granting tax credits to firms that pursue alternative technologies. But the Reagan administration has rebuffed such suggestions. "It is not the responsibility of the regulatory agencies to create or change economic incentives," Rita Lavelle declared last May. "We have to leave the marketplace alone." But it was just such policies that helped cause the growing toxic-waste mess in the first place. Given the magnitude of the crisis the nation now faces, more of the same seems hopelessly inadequate.

MELINDA BECK with DARBY JUNKIN in Denver, JOHN TAYLOR in Boston, MARJORIE MANDEL in Times Beach, SUSAN AGREST and MARILYN ACHIRON in New York and bureau reports