

United States
Environmental Protection
Agency

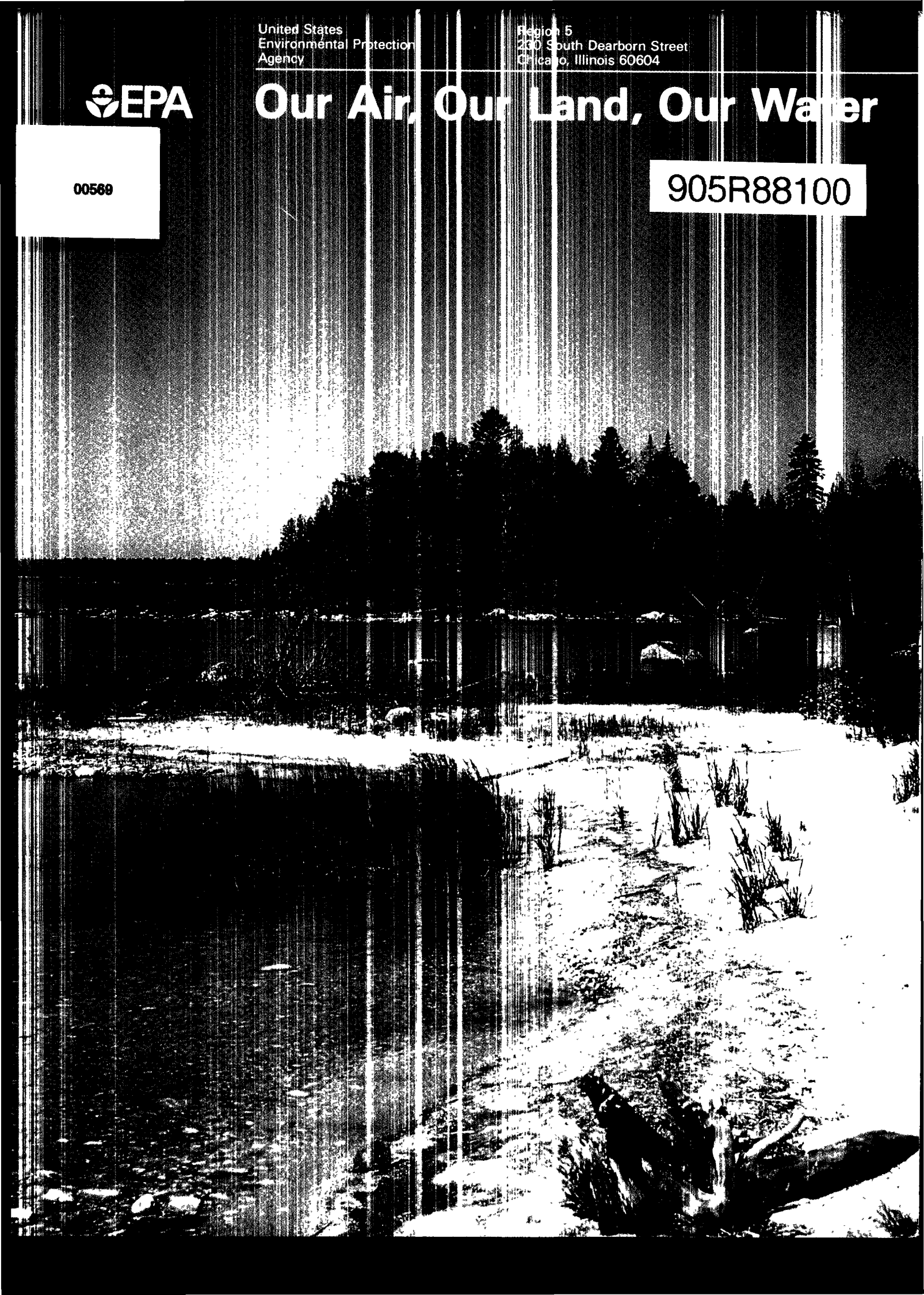
Region 5
230 South Dearborn Street
Chicago, Illinois 60604



Our Air, Our Land, Our Water

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Cover: *Upper Peninsula, Lake Huron.*

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OUR AIR, OUR LAND, OUR WATER

Environmental Quality in the Great Lakes Basin

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Top: Regional Administrator Valdas V. Adamkus and Deputy Regional Administrator Frank M. Covington tour a mobile hazardous waste incinerator in Lemont, IL.

Center: Regional Administrator Adamkus and Superintendent Berl Gier at the award-winning Ypsilanti, MI, wastewater treatment plant.

Bottom: Public meetings and hearings are part of EPA's decision-making process.

WHERE WE STAND

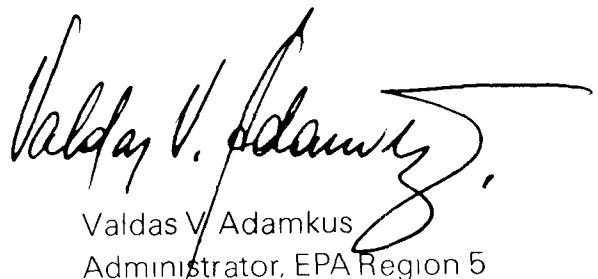
This is our first major, public report on environmental quality in the Great Lakes Basin since 1983. It allows us to share with you, the citizens of our great Region, some of our accomplishments as well as a number of mutual concerns. In a spirit of openness and candor, this report also invites you to evaluate our work.

Besides our overall goals of clean air, clean land, and clean water, we have focused on several environmental problems that defy easy and quick solutions. The control of toxicants, the elimination of hazardous waste, and the prevention of ground-water pollution all have our top-priority attention. And because EPA Region 5 embraces a unique geographical area—some 85 percent of America's Great Lakes Basin—the sound health of these vast inland seas is paramount.

We have also placed a lot of emphasis on public participation, a means of letting every concerned citizen have a voice in environmental matters. Before we issue a permit to a hazardous waste facility, before we turn the first shovelful of earth in cleaning up an old dump, and before we design an alternate supply of drinking water to replace a contaminated aquifer, we hold public hearings.

These hearings, announced through public notices, press releases, letters to residents, and our own Environmental Events Calendar, allow citizens to comment, orally or in writing, on our proposed actions. And we *do* listen to what you have to say.

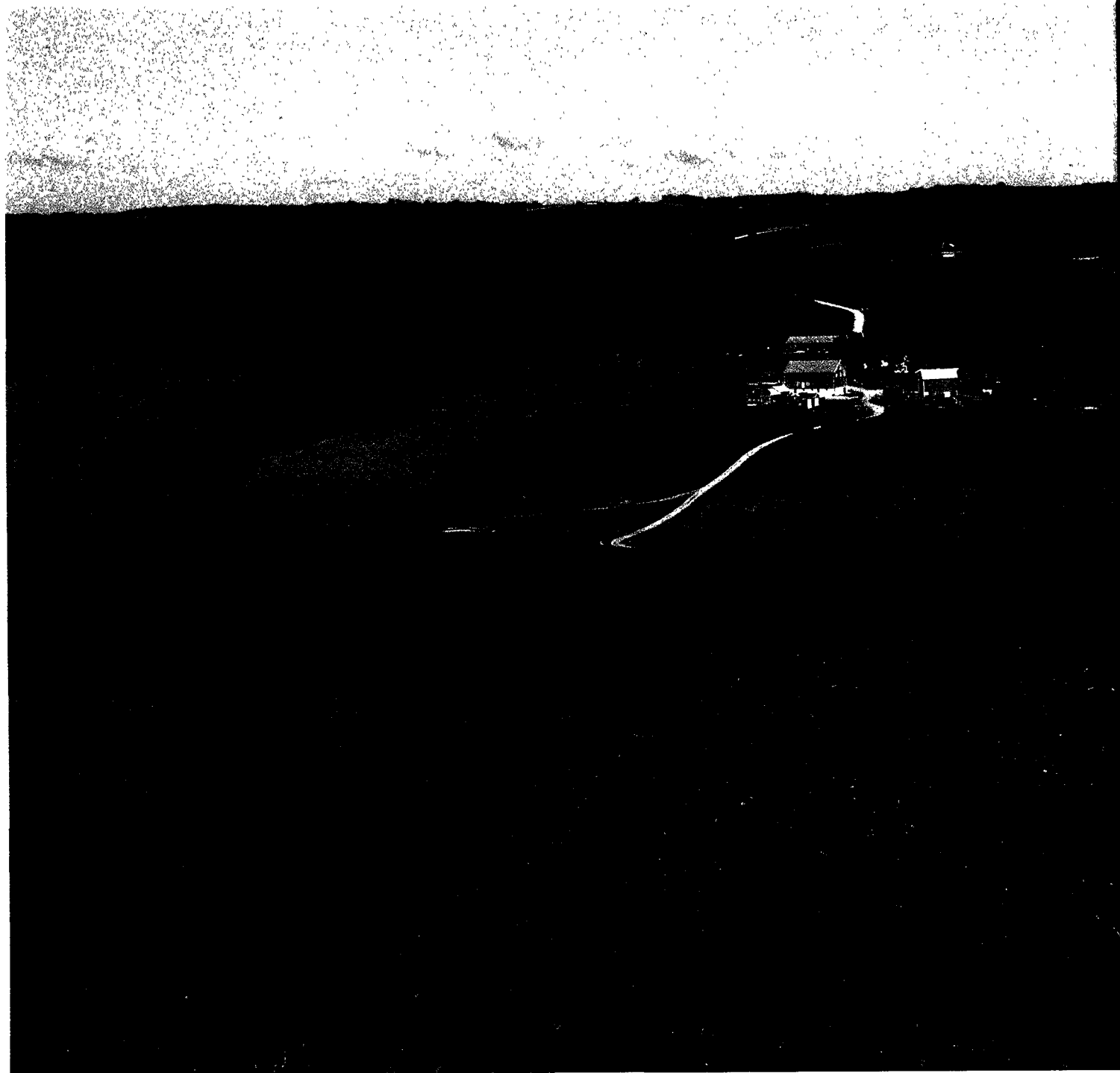
With our indispensable partners, the six States of EPA Region 5, we shall continue to rely heavily on the good common sense and willing cooperation of all citizens. The effective resolution of problems concerning public health and the environment calls for nothing less.



Valdas V. Adamkus
Administrator, EPA Region 5

Chicago, Illinois
September 1988

EPA
REGION 5—
AMERICA'S
HEARTLAND



Rolling countryside of northwestern Illinois.

Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin—these are the States synonymous with the Great Lakes Basin and the productive Midwest. Indeed, synonymous with the heartland of America itself. Administratively, they make up EPA Region 5.

People from all over the world and from many parts of this Nation have chosen to put down their roots here. They came to roll steel in Youngstown and Gary, run auto assembly lines in Detroit, brew beer in Milwaukee, mill grain in Minneapolis, and slaughter livestock by the millions in the now-defunct Chicago stockyards.

Today their descendants and later arrivals number almost 46 million, or 22 percent of the U. S. population—more people than in any of the other nine EPA Regions.

Rich in the diversity of its people, EPA Region 5 is also rich in natural resources. It holds 25 percent of the country's prime farmland, which produces more corn and soybeans than any other area in the Nation. There's iron ore in Minnesota, copper in Michigan, taconite and lime in Wisconsin, sand and gravel in Indiana, and vast coal reserves in Illinois, Indiana, and Ohio.

There are nearly 65 million acres of forests dotted with aspen, birch, walnut, hemlock, hickory, maple, oak, and evergreens.

There are also 94,000 square miles of blue water, better known as the Great Lakes, where sport fishing (salmon, trout, walleye) is booming, commercial fishing (whitefish, perch) is stable, and shipping is holding its own, linking EPA Region 5 and areas beyond with some 40 countries throughout the world.

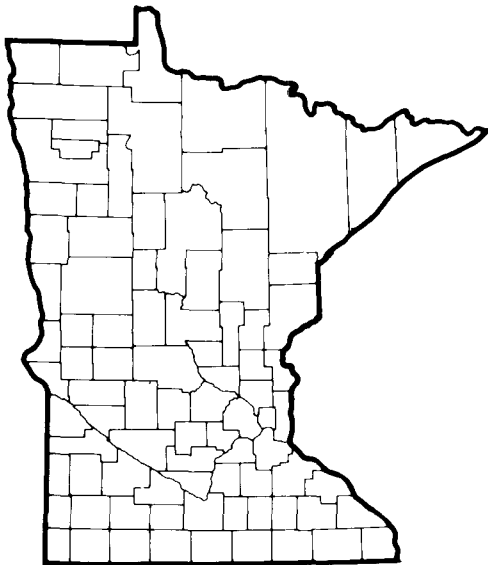
Long a leader in water, rail, and air transportation (Chicago's O'Hare remains the busiest airport in the world), EPA Region 5 supports 25 percent of the U. S. industry. This includes more than 70,000 manufacturing facilities, which turn out everything from autos to x-ray machines. Among those facilities you'll find some 7,400 chemical plants—more than in any other EPA region. In addition, over 70 of America's steel mills are still here, as are two-fifths of the country's power plants run on fossil fuels.

Today, EPA Region 5 is a far cleaner—and a far more pleasant—place to live in than it was 20 years ago. Clouds of black factory smoke that used to block out sunshine for days are gone. Millions of alewives that used to rot on Lake Michigan's shores have disappeared. Putrid raw sewage, slaughterhouse offal, and oily, life-choking industrial wastes used to be dumped into our Region's lakes and streams with abandon. That, too, is now a thing of the past.

But problems remain: Auto pollution is still poisoning some urban areas, hazardous waste sites mock the landscape, certain aquifers are in danger, and every year millions of tons of soil, pesticides, and fertilizer are washed down the waterways with rain and melting snow. In fact, EPA Region 5 leads all other EPA regions in agricultural pollution. Much of that pollution winds up in the Great Lakes, where over 40 troublesome toxic hot spots have been pinpointed.

The six regional States have been vital partners in helping EPA preserve, clean up, and restore our environment. Here are some of the things they have been doing recently:

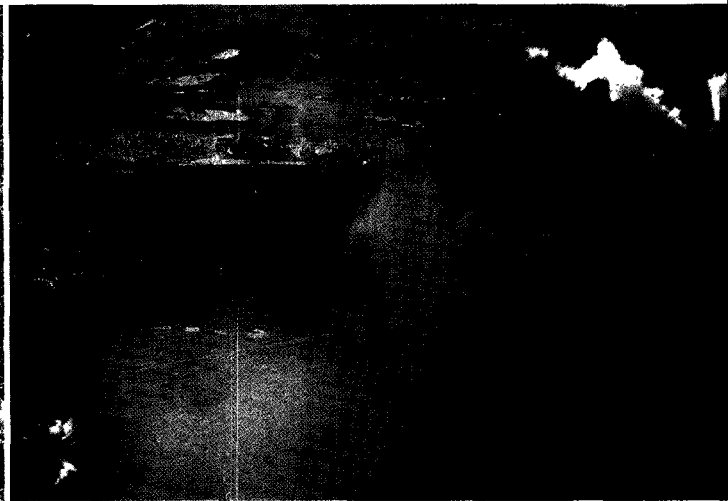
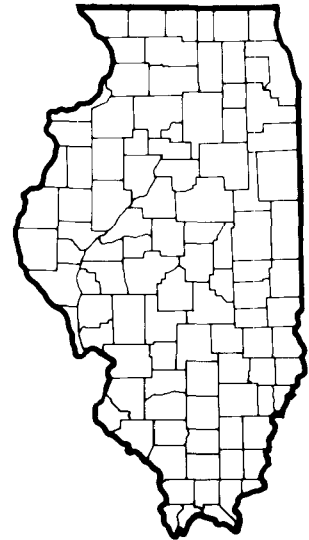
MINNESOTA



WISCONSIN



ILLINOIS



The State's Pollution Control Agency celebrated its 20th anniversary in 1987 and can take pride in the fact that the Conservation Foundation ranks the Land of 10,000 Lakes number one environmentally among our 50 States. Minnesota was first in EPA Region 5 to receive authorization for running the Federal hazardous waste management program and one of the first with its own Superfund hazardous waste cleanup program. New legislation prohibits placing unprocessed garbage in landfills after 1990 and comes to grips with controlling pipelines and underground storage tanks.

The State has begun a long-term strategic planning process to help meet future environmental needs and problems and is working on new codes to regulate dredging. This promises to be a model piece of legislation for the Badger State, which is also keeping a close watch on Great Lakes hot spots, or "areas of concern," in its territory. The focus is on Sheboygan, where fish and sediment are heavily contaminated with PCB's, and on Green Bay, for which a cleanup plan was approved in February 1988.

The Prairie State has aggressively tackled the problem of hazardous waste destruction by establishing a mobile incinerator program. A mobile incineration unit is being used to destroy wastes and contaminated soils during cleanup of hazardous waste sites under a State program similar to EPA's Superfund.

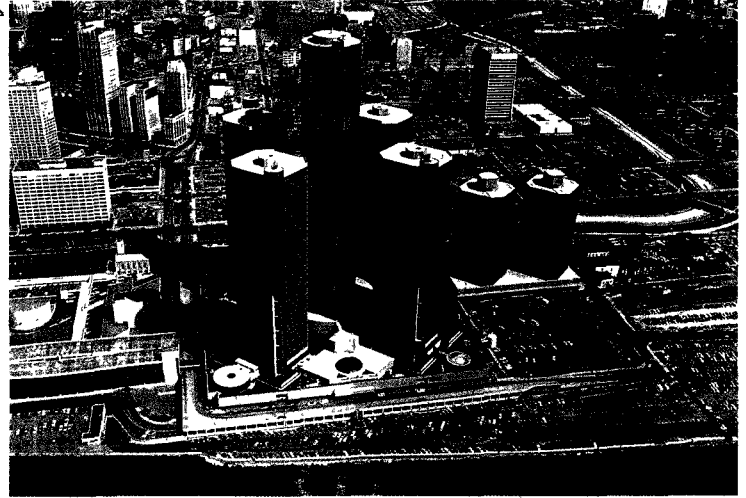
INDIANA



MICHIGAN



OHIO



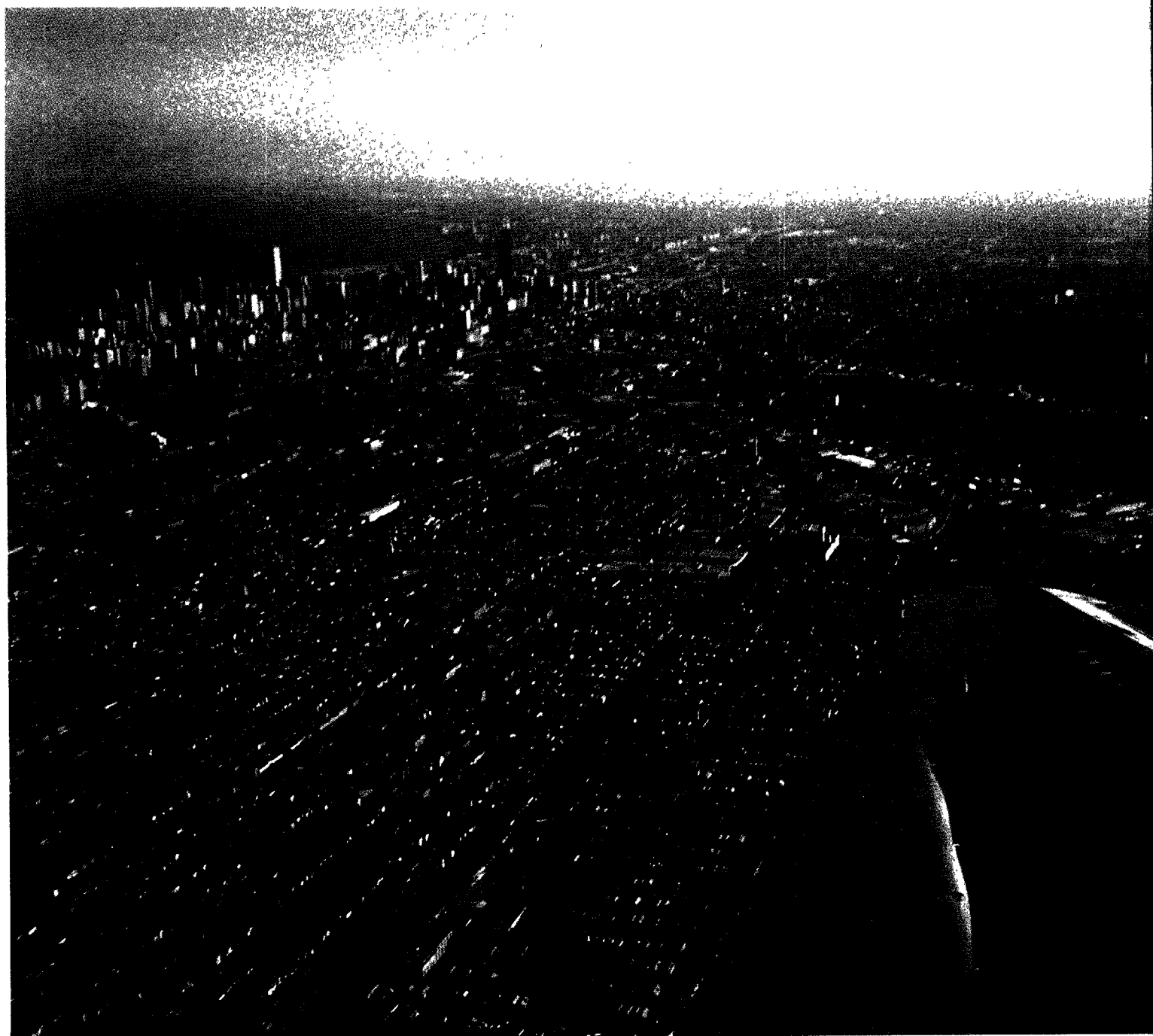
The Hoosier State legislature, following recommendations by the governor's Environmental Policy Commission, has established the Indiana Department of Environmental Management (IDEM), which is responsible for environmental protection in the State. Other recent actions include reaffirmation of the Northwest Indiana Environmental Initiative, which aims to coordinate the control of all forms of pollution in that environmentally troubled corner of the State. Indiana has also revised water quality standards to include limits on toxicants.

The Wolverine State has shown considerable leadership in regulating toxic substances. As part of a program to limit the discharge of toxicants into surface waters, Michigan developed water quality standards that have become a model for controlling this type of pollution. The State has also shown concern in setting limits for air toxicants (heavy metals, organic compounds) when issuing permits to new air pollution sources. And the State's design standards for new hazardous waste landfills are among the strictest in the country.

The Buckeye State has established a revolving fund to help municipalities upgrade wastewater treatment facilities and has adopted an innovative, basin approach to water quality planning that it uses to control toxicants. Ohio has also established a State right-to-know program and has officially announced the completion of cleanup at the ChemDyne hazardous waste Superfund site in Hamilton.

OUR AIR

As we approach the 20th anniversary of the Clean Air Act of 1970, the 46 million citizens of EPA Region 5 are breathing cleaner air than they have in decades. However, some old problems—such as sulfur dioxide emissions from the Region's coal-fired power plants—continue. And new issues—including the toxic "urban soup" and indoor air pollutants—have aroused legitimate health concerns.



Thin veil of polluting summer smog hovers over Chicago.

TRADITIONAL POLLUTANTS

Of the thousands of potential air pollutants, *National Ambient Air Quality Standards* have been set for only six: ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, and lead. In addition, EPA directly regulates the emission of certain hazardous air pollutants, which include asbestos (see "Asbestos" section) and benzene.

High summertime levels of *ozone* (smog), caused by factory and auto emissions, remains the most persistent air pollution problem in the Region. The three-State **Milwaukee-Chicago-Northwest Indiana** urban area typifies the difficult political, legal, and technical problems involved in dealing with a pollutant whose many emission sources are in different political jurisdictions and whose adverse health effects may be felt many miles downwind.

The ambient air quality standard for *particulate matter* (soot, ashes, smoke, dust) was revised in 1987 to deal with the fine particles that penetrate deep into the lungs and thus affect human health the most. The highly industrialized urban areas of **Chicago-Northwest Indiana, Detroit, and Cleveland** are among those that must further reduce emissions to meet the revised particulate standards.

Sulfur dioxide emissions from the Region's many power plants that burn high-sulfur coal are still a problem in **Illinois, Indiana, and Ohio**. In addition to local effects, these emissions contribute to acid rain in areas far from the Midwest. Midwestern utilities, working with the EPA and other Federal agencies to economically reduce sulfur emissions, have developed several feasible technologies.

One of these is the *Limestone Injection Multistage Burner* (LIMB) project at Ohio Edison's Edgewater Station in **Lorain**. The project has shown that emissions from high-sulfur coal can be reduced without the costly retrofitting of stack scrubbers. This new technology may mean job security for tens of thousands of coal miners in the Midwest.

Carbon monoxide pollution is almost exclusively related to auto and truck tailpipe emissions and remains a problem in several large cities in the Region, including **Minneapolis-St. Paul**, where cold winter temperatures interfere with engine warmups.

Aggressive enforcement continues to be a hallmark of air pollution control efforts in EPA Region 5, with an increasing role being played by State and local agencies. This greater emphasis on clean air at all levels of government suggests that our current air pollution problems will be solved and the progress we have made since 1970 will continue.

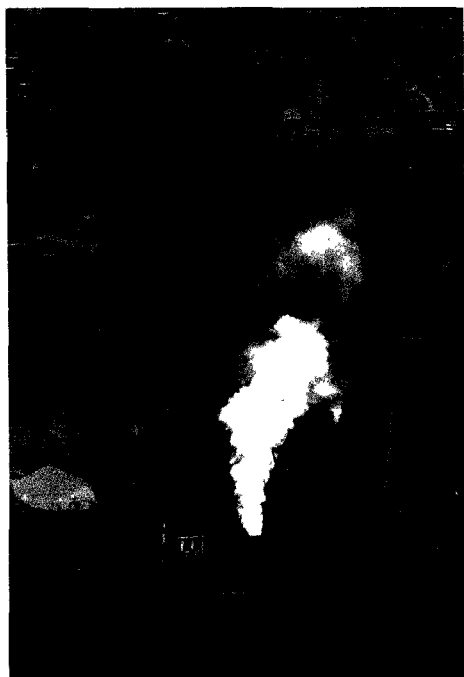


AIR TOXICANTS

Public awareness, research, and improved detection methods— all have underscored the importance of a new environmental problem in the United States: air toxicants. Compared with traditional air pollutants, such as sulfur dioxide or carbon monoxide, air toxicants present a much more difficult identification and control problem.

National strategy

In recognition of the problem and to reduce public health risks that arise from exposure to toxic air pollutants, EPA in 1985 announced its *National Air Toxicants Strategy*. The strategy was based on an EPA study, which identified the two broad origins of air toxicants: *point sources*, such as large factories, and *area sources*, which include emissions from a multitude of motor vehicles, home heaters, gasoline stations, dry cleaners, solvent users, and other small polluters within a geographical area.



Point-source air pollution

Individual emissions from area sources, such as those from a single gas station, may not be high, but when combined with hundreds or thousands of such sources, the amount of toxicants in the air can increase dramatically. The greatest impact of air toxicants on the greatest number of people is in urban areas, where a mixture of various pollutants—from a variety of sources—has produced a new phenomenon known as *toxic "urban soup."*

Objectives of the air toxicants strategy are being met through a variety of Federal, State, and local programs.

Federal programs

Under the Clean Air Act, EPA screens and ranks toxic air pollutants according to their health effects, source, exposure, and other characteristics. The result is *National Emission Standards for Hazardous Air Pollutants* (NESHAP's), established currently for *asbestos, benzene, beryllium, mercury, radionuclides, and vinyl chloride*. Up to now, the NESHAP's program has focused on carcinogenic air pollutants, but in the future increased attention will be given to pollutants that do not cause cancer but may be harmful to humans nonetheless.

The Clean Air Act has also been used by EPA to reduce the health risks from

vehicle and wood-stove emissions. In addition, EPA is developing regulations to control toxic air emissions from hazardous waste treatment, storage, and disposal facilities. The Federal chemical emergency preparedness program also addresses toxic air pollutants.

State and local programs

In 1985, when EPA announced its national strategy for dealing with toxic air pollutants, it also committed itself to establishing appropriate control programs in every State. At the time many States did not have formal programs for toxic air pollutants, but today all EPA Region 5 States have such programs in various stages of development. It will take several years to make these programs fully operational. EPA will continue to provide technical support and information transfers throughout this process, from program design to implementation.

EPA is encouraging States to develop methods for controlling toxic air pollutants from high-risk point sources, such as chemical plants. Lifetime cancer risks from such sources of 1 case per 10,000 population are not unusual.

States and local governments are also being encouraged to reduce high-risk urban areas, where studies have shown that lifetime cancer risks as high as 1 in 1,000 are common. This is the toxic "urban soup" problem, where cumulative health risks are as high as any that EPA has ever addressed.

Dealing with these major problems is a long-term program. The main near term goal is to identify the problem air toxicants and suggest alternatives for their control. The development of control strategies to reduce these high risks will take a concerted effort in the years to come.

MOBILE SOURCES

The air in some urban areas of EPA Region 5 has stubbornly refused to "come clean," and the main reason is emissions from the 30-odd million autos and light trucks in the Region. Their tailpipes emit *carbon monoxide* and *hydrocarbons*, which contribute to one of the most persistent and widespread air pollution problems in the country.

Carbon monoxide reduces oxygen in the human body by weakening the heartbeat; it affects vision, mental function, and overall alertness; in certain circumstances it can cause death. Hydrocarbons, in concert with another pollutant—nitrogen oxide—create ozone, or smog, when exposed to sunlight. Excessive ozone, in turn, irritates mucous membranes and aggravates respiratory disorders.

Vehicle I&M programs

Cities that could not meet Federal clean-air standards by end of 1982 were required by EPA to develop vehicle inspection and maintenance (I&M) programs. These programs were designed to quickly check the effectiveness of auto and light-truck emission systems, to correct deficiencies, and to retest the failed vehicles.

Vehicle I&M programs are now operating in these EPA Region 5 areas: **Chicago, Detroit, Milwaukee, East St. Louis (IL), Northwest Indiana (Lake and Porter Counties), Southeast Indiana (Clark and Floyd Counties), Cincinnati, and Cleveland.** A program to control carbon monoxide emissions from autos in **Minneapolis-St. Paul** is also being developed.

Under the I&M programs, owners of autos and light trucks are responsible for getting their vehicle emission systems in line with State regulations. Sometimes all it takes is a carburetor adjustment, new spark plugs, or a fresh air filter. In some instances, the emission systems don't work because they have been tampered with. In any case, States take into account the difference between new and older cars;

no owner is required to bear the burden of extensive—and expensive—repairs.

EPA has also reduced the amount of lead in gasoline by 90 percent and is studying the possibility of banning the sale of leaded gasoline altogether. In addition, EPA continues to encourage States in their efforts to prevent tampering with vehicle emission systems.

Areas of the country that failed to meet the carbon monoxide and ozone standards by December 1987 (as required by the Clean Air Act), will have to evaluate the need for stricter I&M programs. This will likely mean closer inspection of motor vehicles to see if their emission-control devices have been tampered with.

Diesel engine emissions

The major regulated pollutants emitted by heavy-duty diesel engines, such as those on buses and trucks, are *diesel particulate matter*, *carbon monoxide*, and *hydrocarbons*. However, compared to gasoline engines, diesels emit relatively low amounts of carbon monoxide and hydrocarbons.

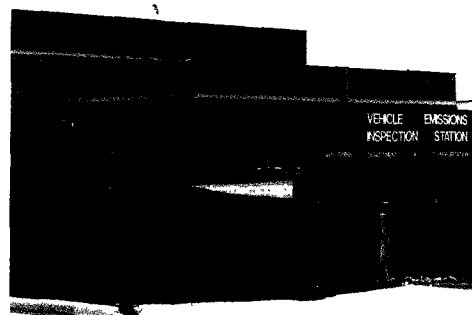
In March 1985 EPA established emission standards for *diesel particulate matter* because that pollutant is also considered hazardous to human health. EPA researchers are now trying to identify toxic chemicals in diesel exhausts so that the chemicals' health risks could be properly assessed.

Because of these more stringent standards, new diesel buses and trucks sold in the 1990's will be much cleaner than those on the road today. Diesel particulate matter, for example, will be reduced sixfold by 1994.

Both EPA and heavy-duty diesel engine manufacturers are working on technology that will enable these engines to meet the stricter 1991 and 1994 standards. Currently available technology was deemed sufficient to meet the 1988 standard.

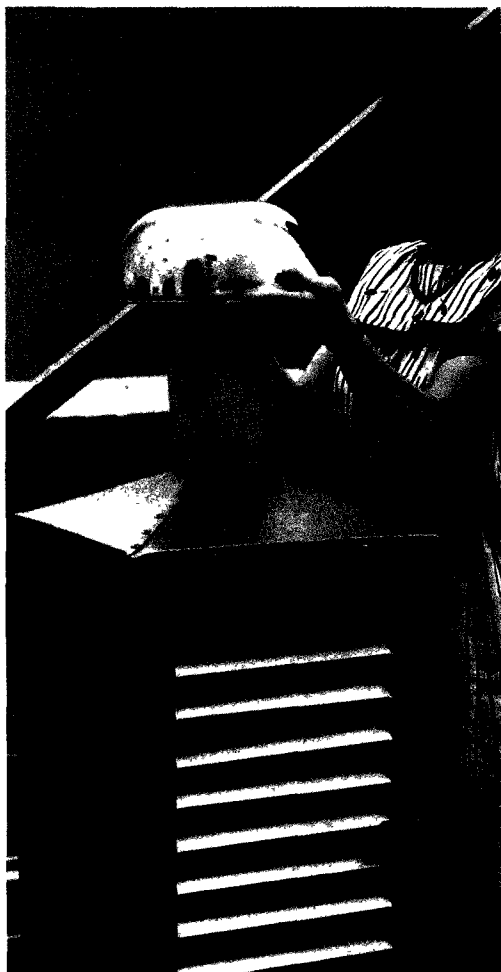
Research now under way is focusing on alternative fuels and trap oxidizers, which would function in much the same way as catalytic converters do on gasoline engines.

The *nitrogen oxides* exhaust emission standard for *all* trucks 6,000 lbs or over has been delayed until the 1990 model year.



Auto testing facility in Racine, WI

RADIATION



EPA staffer changes filter on monitor that traps airborne radiation.

We are constantly being exposed to natural radiation either from the sun or from such earth sources as uranium. This so-called background radiation is as old as the earth itself. And although most of us are exposed to it in very small doses, this type of radiation can be harmful.

Much more serious, perhaps, is excessive exposure to the two types of man-made radiation. *Ionizing radiation*—from medical x rays, nuclear power plants, uranium mining wastes, and other sources—may cause cancer and genetic problems many years later. *Nonionizing radiation*—from radar, radio, and TV transmitters, for example—is not well understood, but has been known to promote eye cataracts, cause skin burns, and affect human behavior.

EPA, together with a number of other Federal agencies, is responsible for protecting people and the environment from harmful radiation.

Monitoring network

As part of a nationwide network, eight sampling stations monitor airborne radioactivity in EPA Region 5. These stations, established by EPA and run by State or local agencies, operate around the clock and measure fallout in case of nuclear accidents (Chernobyl 1986) or aboveground nuclear weapons tests. Besides air, EPA regularly checks precipitation, surface water, drinking water, and milk for radioiodine and radioisotopes. Data are then used to establish radiation trends and set background radiation limits.

EPA also helps other Federal agencies test State and county radiological emergency response plans, which would go into effect in case of an accident at one of the 18 nuclear power plants in Region 5. In fiscal 1987, EPA participated in five such tests, including the national, multiagency test at the nuclear power plant in Zion, IL.

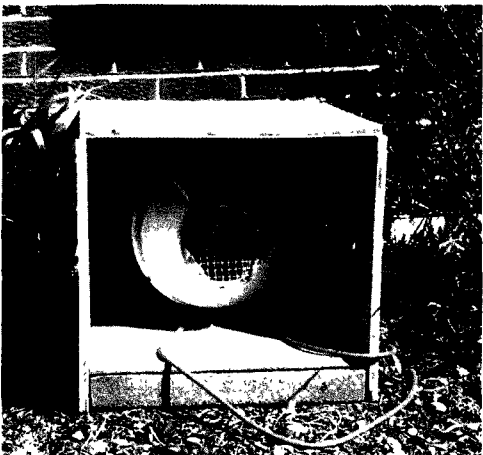
In support of EPA's hazardous waste cleanup and control programs, regional radiation experts automatically survey sites suspected of radioactive materials and then recommend alternatives for cleanup. In addition, selected industrial facilities are being reviewed to forestall radiation problems in the future.

Federal facilities that produce radioactive materials also come under EPA scrutiny. However, EPA cannot enforce Federal law in Federal facilities except by means of a compliance agreement. Such an agreement was signed in fiscal 1987 with the Department of Energy to limit radioactive emissions at its nuclear Fuel Materials Production Center in Fernald, OH.

Radon response

In response to a national health concern, EPA in 1987 launched a *Radon Action Program* to deal with elevated radon levels in many homes. Radon, a colorless, odorless gas, seeps into homes from soil and rocks. Every year, it may be responsible for as many

RADIATION



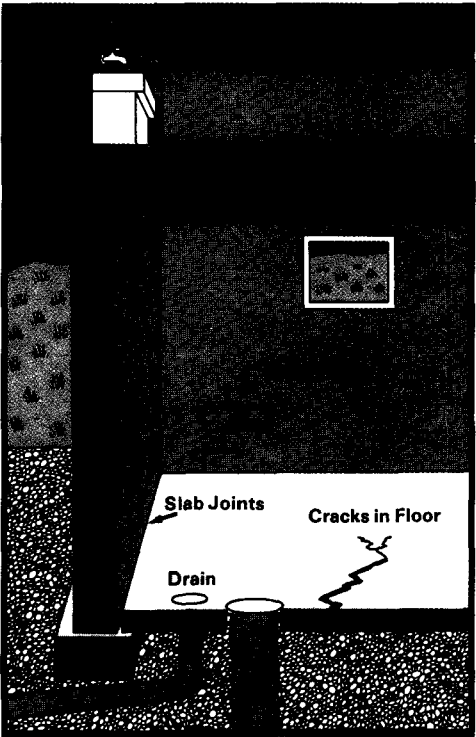
as 20,000 lung cancer deaths nationwide. Some 3 million—or 25 percent—of all homes in EPA Region 5 are estimated to exceed the officially suggested “don’t worry” radon level of 4 picocuries per liter of air.

After EPA announced this level nationwide, EPA Region 5 answered about 1,600 written and phone requests for radon information within a couple of days. A citizen’s information packet (still available) was immediately put together; it included the popular layman’s guide to radon and a brochure on radon reduction methods.

Radiation staff continues to survey the extent of the radon problem in EPA Region 5, with the help of State and local public-health agencies.

Top *Cutaway under bathtub, where foam has been sprayed to keep out radon.*
Middle *Basement sump with radon removal equipment.*
Bottom. *Exhaust fan to remove radon from house*

COMMON RADON ENTRY POINTS



RADON RISK EVALUATION CHART					
pCi/l	WL	Estimated number of LUNG CANCER DEATHS Due to radon exposure (Out of 100)	Comparable Exposure Levels		Comparable Risk
200	1	440-770	1000 times average outdoor level		More than 60 times Non-smoker risk
100	0.5	270-630	100 times average indoor level		4 pack-a-day smoker
40	0.2	120-380			20,000 chest x-rays per year
20	0.1	60-210	100 times average outdoor level		2 pack-a-day smoker
10	0.05	30-120	10 times average indoor level		1 pack-a-day smoker
4	0.02	13-50			5 times non-smoker risk
2	0.01	7-30	10 times average outdoor level		200 chest x-rays per year
1	0.005	3-13	Average indoor level		Non-smoker risk of dying from lung cancer
0.2	0.001	1-3	Average outdoor level		20 chest x-rays per year

OUR LAND

Winter, summer—excavation at hazardous waste sites goes on



HAZARDOUS WASTES

The EPA Region 5 report on the environment in 1983 said that "protecting America from the consequences of improper hazardous waste disposal" is the Agency's greatest challenge. Although a great deal has been done to improve the methods of hazardous waste disposal in the meantime, that challenge remains. Thousands of abandoned hazardous waste dumps—scattered from inner cities to country meadows—bear witness that the task of cleaning up has only just begun.

Superfund amended

The *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) of 1980 created the \$1.6 billion Superfund—a 5-year program to finance the cleanup of hazardous waste sites throughout the country. In 1986, the *Superfund Amendments and Reauthorization Act* (SARA) extended the program for another 5 years, significantly increased the fund to \$8.5 billion, established more stringent cleanup standards, and enhanced EPA's power to enforce the law.

Over 5,300 sites

In 1983, there were an estimated 2,900 abandoned hazardous waste sites in EPA Region 5; by 1988 the Region had found over 5,300. These sites are being evaluated for their potential to threaten human health and the environment. To date, EPA Region 5 has completed preliminary assessments at 4,730 sites and inspections at 1,310 sites.

(A *preliminary assessment* looks at all available information on a site to determine if further investigation or specific action is needed. A *site inspection* is a physical investigation of the site to determine if hazardous wastes have leaked into the environment.)

There are 228 sites in EPA Region 5 on EPA's *National Priorities List* (NPL),

a nationwide inventory of 951 hazardous waste sites eligible for cleanup under Superfund. That represents a 400 percent regional increase over the 53 sites listed in 1983 and more sites on the NPL (24 percent) than in any other area of the country.

Emergency cleanups

To cope with hazardous waste more effectively, EPA recognizes two basic types of action: emergency situations and long-term cleanups. Since no two hazardous waste sites are alike, EPA evaluates each site individually and tailors its actions accordingly.

Emergency cleanups (removal actions) are short-term activities designed to clean up or stabilize a hazardous waste site that poses an immediate threat to human health and the environment. (The site does not have to be on the priorities list.) The Superfund amendments increased the time limit and funding for emergency cleanups from 6 months and \$1 million per site to 1 year and \$2 million per site.

In fiscal 1987, EPA Region 5 *started* emergency cleanups at 8 sites on the priorities list and at 29 sites not on the list. Similarly, it *completed* emergency cleanups at 8 sites on the priorities list and at 24 sites not on the list. In addition, the Region supervised seven emergency cleanups completed by private companies at their own sites.

Innovative technology

Innovative technology, as emphasized in Superfund amendments, was applied at Commercial Oil, a waste oil and solvent reclaimer near **Toledo, OH**. In 1986, EPA began pumping out PCB-contaminated water (9 million gallons thus far) and treating it with a carbon adsorption process, during which PCB's cling to a carbon filter and clean water is discharged at the other end. The 20,000 cubic yards of PCB-contaminated sludges will be put through a new process that will reduce the sludge to dry powder (suitable for landfilling), decontaminate the water, and turn the PCB-contaminated oil into a byproduct. This process will decontaminate, by volume, 85 percent of the water in a series of lagoons.

Another major emergency cleanup, completed in April 1987, took place at the Main Street Well Field in **Elkhart, IN**. Here EPA Region 5 had to deal with widespread well-water contamination by TCE's and other volatile organic chemicals. Some 14,000 feet of water mains were installed to connect more than 300 homes and businesses to the municipal water system. In addition, EPA provided whole-house or individual faucet filters to 86 homes where water mains were not available.

Long-term cleanups

Besides emergency cleanups, EPA under Superfund also focuses on *long-term cleanups (remedial actions)*. They involve four specific steps: investigation-study, selection of cleanup method, design of plans, and actual cleanup. Such cleanups may last as long as several years, and the site may require upkeep far into the future.

HAZARDOUS WASTES

In fiscal 1987, EPA Region 5 made the required preliminary assessments at 805 sites and inspected 225 others. The Region started remedial investigation-feasibility studies at 36 sites and continued such studies at 102 other sites, in addition to selecting cleanup plans for 14 sites.

Companies or individuals who are at least partially responsible for conditions at a hazardous waste site (responsible parties) often volunteer to clean up, or are forced to do so by EPA and the States. In fiscal 1987, EPA Region 5 began negotiating with these responsible parties to conduct remedial investigation-feasibility studies at 20 sites and to design cleanup plans, or start actual clean-up, at 10 sites. Another 10 cleanups were started either by EPA or by responsible parties.

The one long-term cleanup completed in fiscal 1987 was at the Chem-Dyne site in **Hamilton, OH**—one of the worst hazardous waste sites in EPA Region 5. After 4 years, the ground-water treatment system—which will have to be operated for the next decade—was finally in place. The *total value of the settlement*, including over \$4 million in costs recovered by EPA, was \$19.4 million, paid by 112 responsible parties.

Federal facilities compliance

EPA Region 5 and the Minnesota Pollution Control Agency have recently signed the first Federal Facilities Compliance Agreement with the Department of Defense. The precedent-setting agreement covers all hazardous waste cleanup activities at the **Twin Cities Army Ammunition Plant**. It underscores the intent of Congress to make Federal facilities subject to all Superfund regulations.

Emergency plans

The Superfund amendments also launched the *Emergency Planning and Community Right-to Know Act* (Title III), under which certain manufacturers and handlers of 366 specific chemicals must meet strict reporting requirements. As part of this program, EPA must maintain a national *toxic chemicals release inventory* and make it available to the public. And States and local governments must develop emergency plans in case of a chemical disaster, such as in Bhopal, India, several years ago.

All regional States have appointed their emergency response commissions and have designated priority areas for emergency planning: 10 areas in Illinois, 8 in Indiana, 8 in Michigan, 8 in Minnesota, 22 in Ohio, and 4 in Wisconsin.

(A *priority area* is determined, in part, by the type and number of industries in the area, by size of population, and by the record of prior chemical accidents, or releases.)

RCRA and amendments

There are over 36,000 companies in EPA Region 5 that handle hazardous wastes and almost 1,000 facilities that treat, store, or dispose of these wastes. Regulating their activities are two key laws: The *Resource Conservation and Recovery Act* (RCRA) of 1976 and the *Hazardous and Solid Waste Amendments* (HSWA) of 1984. The amendments, passed by Congress largely because of citizen concerns about hazardous waste disposal and ground-water contamination, gave new strength to RCRA and added under its wing small-quantity generators (less than 1,000 kilograms—or 2,200 lbs—of hazardous waste per month).

While Superfund deals with cleanup of *abandoned* hazardous waste sites, RCRA and now HSWA are concerned with *active* hazardous waste facilities. The goals of EPA's waste management program are to:

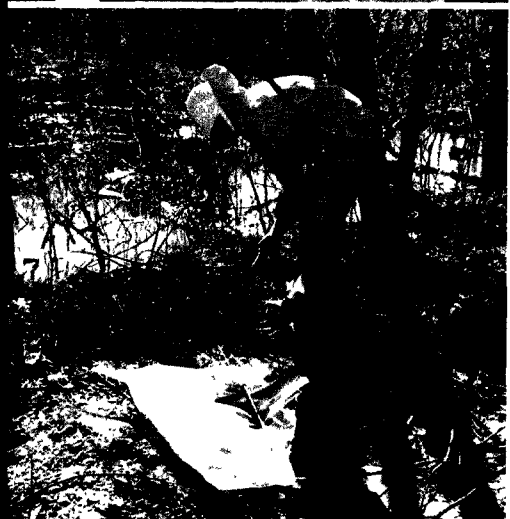
- protect human health and the environment—the foremost consideration;
- reduce waste while conserving energy and natural resources; and
- reduce or eliminate hazardous waste as quickly and as efficiently as possible.

These goals are achieved mainly through three major EPA programs: the control of hazardous waste from "the cradle to the grave," the regulation of solid (mostly nonhazardous) waste, and the regulation of toxic substances and petroleum products stored in underground tanks.

Tracking system, permits

EPA has developed a tracking system, under which a document, called a manifest, accompanies hazardous wastes every step of the way—from their creation to their ultimate disposal. In addition, EPA has developed a RCRA permit system for all hazardous waste facilities to ensure their safe operation. EPA Region 5 plans to issue permits to all active land disposal facilities by November 1988, to incinerators by November 1989, and to treatment and storage facilities by November 1992. Priority will be given to the largest facilities and to those with the most potential of causing environmental harm.

HAZARDOUS WASTES



RCRA regulations also require that owners prepare plans for the facilities' eventual closure. More than 250 of the 317 land *disposal* facilities in EPA Region 5 have closed or expressed their intent to close during fiscal 1987; many *storage and treatment* facilities are also expected to close within the next few years. In fiscal 1987, EPA Region 5 issued 24 RCRA permits and completed closures at 153 facilities.

Over 550 facilities inspected

To prevent harm from the estimated 80 percent of hazardous waste disposed of on land, EPA is developing regulations to ban such practice. The new RCRA amendments also require waste generators (as well as treatment, storage, and disposal facilities) to report to EPA and the States on their efforts to reduce the production of hazardous waste through recycling, separation, treatment, and other methods.

In fiscal 1987, EPA Region 5 and the States inspected more than 550 facilities and more than 1,700 waste handlers to ensure compliance with RCRA regulations. Over 1,000 enforcement actions—from warning letters to criminal proceedings—were taken against RCRA violators in fiscal 1987. These efforts helped to bring hundreds of waste handlers back into compliance.

Incineration

Issuing permits to incinerators is one major way in which EPA encourages alternatives to land disposal of hazardous waste. Through carefully controlled high-temperature combustion, incinerators can almost totally destroy a wide variety of toxic organic wastes. Stack emissions consist almost entirely of harmless

water vapor, and bottom ashes contain only unburnable inorganics, such as heavy metals.

EPA Region 5 has about 40 active hazardous waste incinerators, but only three operate commercially, meaning that they accept waste from the industry at large. The SCA incinerator in **South Chicago**, the TWI incinerator in **Sauget, IL**, and the Ross incinerator in **Grafton, OH**, are in various stages of receiving their EPA permits.

In addition to incineration, EPA is encouraging companies to reduce the creation of hazardous waste, to develop chemical or biological treatment methods, and to use waste exchange programs, where one company's waste becomes another company's resource.

Solid waste disposal

In 1987, the United States generated 220 million tons of solid or municipal waste, commonly known as garbage. That's about 3.4 lbs daily for every one of us. Where to put this gigantic—and growing—mountain of trash has become a national problem. Landfill space, especially in **Metropolitan Chicago**, has become critical.

Yet, solid wastes did not surprise anyone overnight. It is an old issue. As far back as 1965 Congress passed the *Solid Waste Disposal Act* to provide funds for State solid waste management programs. RCRA also deals with solid waste, encouraging recovery of reusable materials, promoting sound solid waste disposal, and calling for overall waste reduction.

EPA Region 5 and the States were actively developing recycling and solid

EPA investigator collects water, air, and soil samples at a RCRA site

HAZARDOUS WASTES

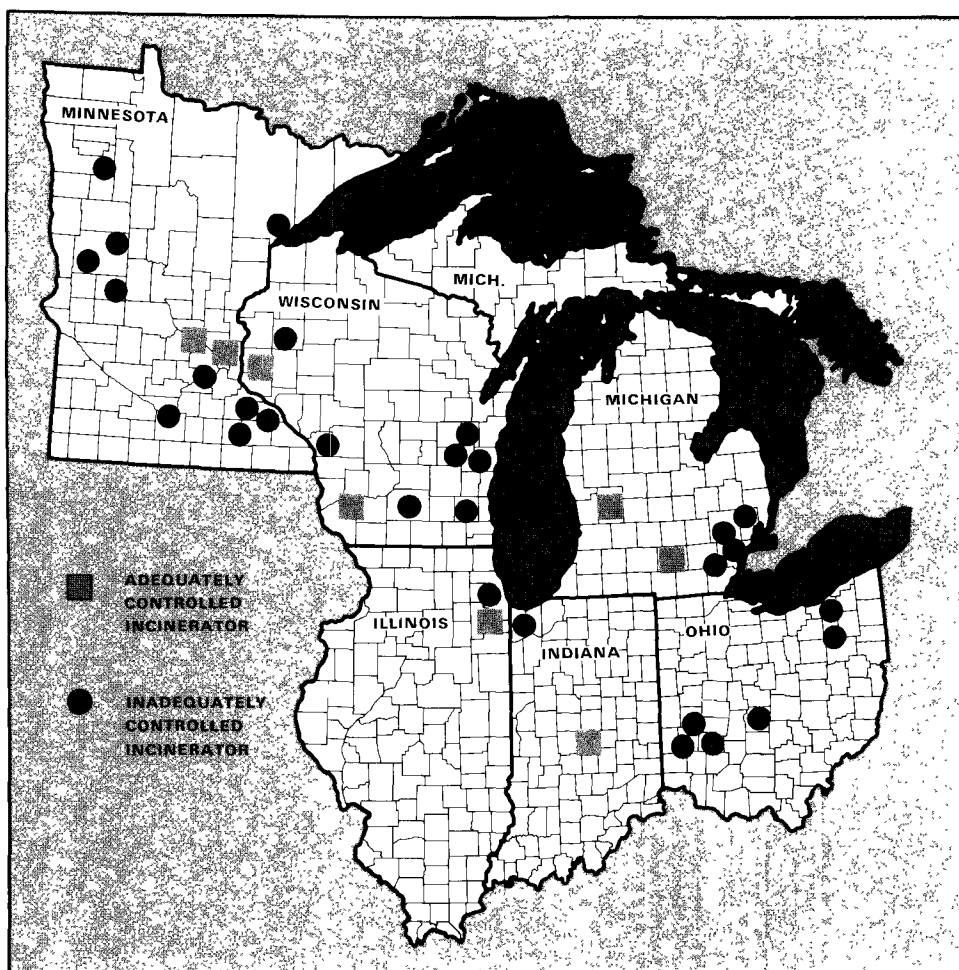
waste programs through the early 1980's. However, as *hazardous* waste took over the headlines, solid-waste issues retreated. When Federal funds were diverted to hazardous waste, many States were forced to discontinue their solid waste programs.

The goal: fewer landfills

The new RCRA amendments, however, have once again brought solid waste to the fore. EPA is evaluating the

ability of existing regulations to prevent damage to human health and the environment. If necessary, new regulations will be proposed.

Several States and local communities in EPA Region 5 have started recycling programs and have begun construction of waste-to-energy facilities that recover the energy produced by incineration. The long-term goal is to reduce the need for landfills as much as possible.



Location of municipal solid-waste incinerators in EPA Region 5

Underground storage tanks

The 1984 RCRA amendments also established a new *Underground Storage Tank* (UST) program to regulate the storage primarily of gasoline, crude oil, and other petroleum products. EPA estimates there are several million such underground tanks nationwide, some 450,000 in EPA Region 5 alone. About 334,000 of these tanks have been identified by the regional States through a notification process; an estimated 110,000 additional tanks have yet to be identified.

New EPA regulations for underground tanks will cover performance standards for new tanks, leak detection, leak prevention, corrective action, and financial responsibility.

200,000 tanks leak

In October 1986, Congress amended RCRA to come to grips with leaking tanks and established the *Leaking Underground Storage Tank* (LUST) program. It is similar to the Superfund program, except that it limits cleanups to actual petroleum-product releases from underground tanks. And these releases are significant: EPA estimates that about 200,000 of the 1.4 million underground tanks regulated nationwide are leaking.

The LUST program is financed by a 0.1-cent tax on motor fuels and *will raise \$500 million* between 1987 and 1991. These funds, unlike Superfund moneys, will be used mainly by the States under cooperative agreements with EPA.

Once the UST program is fully under way (from 1988 onward), cleanups under LUST—where the responsible owner or operator cannot be found—should go down drastically

TOXIC SUBSTANCES

EPA's national inventory shows more than 63,000 chemical substances in commercial use today. And hundreds more are being introduced every year. While most of these chemicals are harmless and literally all around us—in almost everything we touch—it is a relative handful of toxic substances that EPA is concerned about.

Besides man-made chemical compounds, toxic substances include naturally occurring heavy metals such as *mercury*, *cadmium*, and *lead*.

The *Toxic Substances Control Act* (TSCA) of 1976 gives EPA the authority to regulate the development, distribution, and marketing of chemical substances. Importers, manufacturers, and processors must notify EPA 90 days before introducing a new chemical into the market; they may also be required to test chemicals for toxicity. To prevent *unreasonable risk to human health or the environment*, EPA has a broad range of options under TSCA—from mandatory warning labels to total bans for especially dangerous chemicals.

PCB's banned; some remain

One such chemical group that continues to haunt the industry and EPA is polychlorinated biphenyls, better known as PCB's. The man-made, colorless, oily substance was once widely used as a lubricant, fire retardant, and insulator in electrical equipment. But PCB's, almost indestructible in the environment, were shown to be harmful to fish, lab animals, and people at even very low levels. Their toxic and carcinogenic properties were considered so serious that PCB's were the only chemical substance specifically named in TSCA. EPA was charged with their control.

EPA banned PCB's in 1979, but they were allowed to remain in electrical transformers, capacitors, hydraulic systems, and other totally enclosed industrial equipment. An estimated 60 percent—or 380 million pounds—of all PCB's remaining in the United States are in EPA Region 5.



The mobile Westinghouse Haztech incinerator (here in La Salle, Ill.) destroys PCB's and other hazardous waste.

Compliance rate 50 percent

Since the 1979 ban, EPA Region 5 has inspected some 2,960 facilities for compliance with regulations on PCB use, storage, disposal, and so on. Only about half passed inspection. To increase the compliance rate, EPA continues to work closely with **Ohio** and **Michigan**. Under cooperative agreements with EPA Region 5, personnel of the two States have completed 379 PCB inspections in fiscal 1987. Since EPA Region 5 does not have cooperative agreements with the other four regional States, PCB inspections are conducted by EPA in those States.

EPA Region 5 also responds to emergencies in case of PCB spills and takes enforcement actions. In fiscal 1987, it initiated 194 such actions, which included civil administrative complaints as well as notices of non-compliance with TSCA. Each year enforcement actions are initiated for new violations; pending actions are resolved either through negotiation, judicial decree, or the payment of assessed penalties.

In fiscal 1987, EPA settled 67 cases. This netted *\$400,000 in penalties* and—more important—*\$10 million in environmental benefits*: either by removal of PCB equipment from service or by decontamination of PCB spill sites.

New developments

During fiscal 1987, EPA Region 5 approved 11 new research and development projects—or granted extensions to previously authorized projects—that dealt with the dire need for PCB treatment and disposal. These included chemical detoxification of PCB-contaminated soils, catalytic hydrogenation of PCB's to produce high-quality fuel oil,

TOXIC SUBSTANCES

disassembly and solvent-washing of PCB transformers, and other innovative methods. (EPA allows the disposal of PCB transformers in TSCA landfills, but only after draining and an 18-hour rinse.)

To ensure compliance with its EPA permit, the SCA incinerator in **South Chicago** held its fifth annual trial burn in 1987. It is the only EPA-approved PCB incinerator in the Region. The trial burn affirmed the incinerator's ability to destroy PCB's at its customary 99.9999 percent efficiency. High-temperature incineration (above 2,192 degrees Fahrenheit) remains the most efficient way to destroy PCB's.

Record settlement

In November 1987, EPA Headquarters reached a preliminary agreement with the Texas Eastern Pipeline Co. to clean up PCB's along its 10,000-mile natural-gas line, part of which runs through three EPA Region 5 States: **Illinois, Indiana, and Ohio**. The agreement, which calls for an estimated \$400 million in cleanup costs and \$15 million in civil penalties, is the largest in EPA history. EPA Region 5 personnel had inspected a number of the company's disposal pits for PCB's earlier that year.

In another case, EPA Region 5 and Commonwealth Edison Co. signed a consent decree, which required the company to remove all on-line PCB capacitors by January 1, 1987, and to survey and decontaminate more than 300 old spill sites in **northern Illinois**. The cleanup of the old spill sites will continue until 1991.

1982	EPA bans use of PCB capacitors, except in certain controlled manufacturing processes. EPA bans use of PCB transformers in food-feed operations after October 1, 1985. PCB capacitors in food-feed operations and in nonrestricted locations banned after October 1, 1988.
1983	EPA extends use of PCB railroad transformers till July 1, 1986.
1985	EPA requires registration of PCB transformers with fire-response personnel.

ASBESTOS

Asbestos is a tough, heat-resistant natural mineral that was widely used for fireproofing, insulation, and many other purposes in schools as well as in commercial and residential buildings for several decades... until totally banned by EPA in 1978.

The reason for the ban was that asbestos, when dry and damaged, breaks up into millions of invisible fibers that get into the air and frequently into the human body. And that's when the trouble starts, because asbestos stays forever. It can cause asbestosis (a lung disease) and cancers of the lung, esophagus, stomach, colon, and the peritoneal cavity (mesothelioma).

Asbestos inspections

In 1979 EPA announced a voluntary school asbestos inspection and control program; it was but a limited success. Then, in 1982, EPA issued its *asbestos-in-schools rule*, which required all school districts to inspect every area of every school for friable (easily crumbled) materials. If such materials were found, districts were required to notify parents, teachers, and employees. The districts were given 13 months to comply.

Since the asbestos-in-schools rule went into effect, EPA Region 5 made 1,778 compliance inspections, representing 6,000 schools from various school districts in the Region. Some school districts were in serious violation of the rule. They were cited by EPA in

331 civil administrative actions, with proposed penalties from \$2,600 to \$432,100. School districts with minor infractions were issued 663 notices of noncompliance.

Region gets \$46 million

To help schools that had serious asbestos problems but no money to correct them, Congress passed the *Asbestos School Hazard Abatement Act* (ASHAA) in 1984. Under the act, more than \$157 million in no-interest loans or in a combination of loans and grants was provided to financially strapped schools nationwide. Almost 30 percent, or **\$46.1 million**, went to schools in EPA Region 5. (See graph next page)

These ASHAA funds made it possible for school districts in EPA Region 5 to start 202 abatement projects aimed at eliminating asbestos hazards in 127 schools.

Final rule issued

EPA noted, however, that some schools (or their contractors) were not doing a thorough-enough job of identifying, removing, or sealing-in asbestos materials. The *Asbestos Hazard Emergency Response Act* (AHERA) of 1986 was passed by Congress to correct these deficiencies. Under the act, EPA issued a final rule in October 1987, which requires all local education agencies to:

- inspect school buildings for *all* asbestos materials;
- submit management plans to State governors; and
- reduce or eliminate asbestos hazards.

EPA's final rule also spells out requirements for warning labels,

Left to right: Workers use a Blast Trax machine to remove asbestos material from floor; demonstrate glove-bagging technique to gather asbestos lagging on pipes; check asbestos material before it enters landfill



ASBESTOS

record-keeping, and making school management plans available to the public.

Congress appropriated *\$20 million* to help schools conduct inspections and develop management plans by the October 12, 1988, deadline* so that schools could begin to carry out all provisions of the rule by July 9, 1989.

EPA Region 5, together with State agencies, has held 61 seminars for local educational agencies on the requirements of AHERA and the final rule. Technical assistance, as well as guidance and reference materials, is also being made available to any school district.

Demolition-renovation

While asbestos in schools continues to command EPA's attention, the enforcement of asbestos demolition and renovation regulations is also part of the job. These regulations are designed to protect workers and passers-by from asbestos fibers during the process of demolishing or renovating *institutional* (hospitals, schools), *commercial* (offices, stores), or *industrial* (factories, warehouses) buildings, as well as *private homes with more than four dwelling units*. Today these sources of asbestos emissions far outnumber all others.

One important provision of these regulations is the advance reporting requirement, which gives EPA, State, and local personnel enough time to inspect the proposed demolition-renovation site and to make sure that asbestos emissions are kept to a minimum.

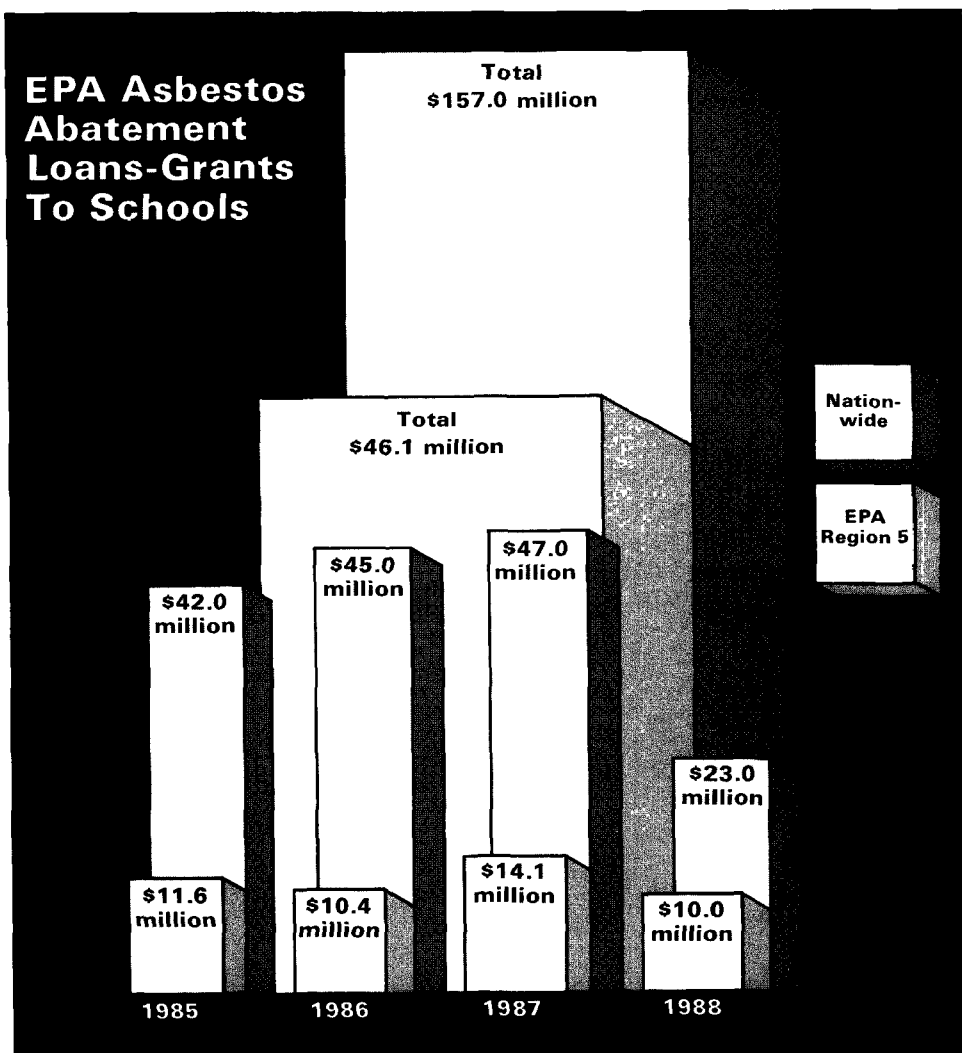
The rules also specify requirements for wetting and removing asbestos-

bearing materials and for their safe disposal in approved landfills.

Information center

In June 1986, the **Midwest Asbestos Information Center (MAIC)** was opened at the University of Illinois in Chicago, in the School of Public Health. The center, established and

run with the help of EPA grants, offers courses and other information to the public and to asbestos removal contractors on asbestos control and abatement techniques. MAIC has been presenting two to three courses per month. (For course information and scheduling at MAIC, call 312-996-5762.)



**Local education agencies may request deferral of this deadline to May 9, 1989, according to latest change in law*

DIOXIN

Dioxin has been called the most toxic chemical made by man. An unwanted byproduct of certain manufacturing and combustion processes, dioxin is known to cause cancer and other maladies in lab animals. Based on animal data and some studies of humans, dioxin is considered a probable human carcinogen. Dioxin can also cause a persistent form of acne and liver dysfunction; it also may affect the immunological system.

Accurately used, "dioxin" is a generic term that pertains to a family of 75 related chemical compounds, of which 2,3,7,8-TCDD (2,3,7,8-tetrachlorodibenzo-p-dioxin) is the most toxic and the best known.

EPA Region 5 has been working on the dioxin problem since the late 1970's, when that toxicant was first discovered in fish of the Great Lakes Basin. In 1983 EPA developed its *Dioxin Strategy*, whose key part was the *National Dioxin Study*, a survey of dioxin contamination throughout the country.

Let's take a brief look at results of that study in EPA Region 5 and at follow-up activities:

Midland

EPA first focused on Midland, MI, where dioxin was found in fish of the Tittabawassee River, in soil at the Dow Chemical plant, and in the company's wastewater. The State issued a warning on eating fish downstream from the plant and ordered Dow to reduce its dioxin discharges. The company installed a filtration system for its wastewater and, as a result of an EPA order, removed demolition debris and capped contaminated soil areas.

Pesticide formulators

A nationwide sampling of 64 manufacturing sites included 20 in EPA Region 5. Dioxin was found at three of those sites. Contaminated soil at the sites has been covered, and other measures to deal with the problem are being considered. Additional regional sites are being checked.

Incinerators

Since incineration of certain municipal and industrial wastes can be a source of dioxin, EPA's sampling emphasized air emissions and ash from incinerators. There was considerable variation in the amount of dioxin found. Incinerator ash was sampled at 72 sites nationwide, including 23 sites in EPA Region 5. Because ash from three of those regional sites was found contaminated with dioxin, the three sites are being further investigated under the Superfund hazardous waste program.

EPA is drafting stronger regulations for municipal incinerators. And while it continues to evaluate dioxin emissions, EPA has not yet declared dioxin a hazardous air pollutant.

Paper mills

After dioxin was discovered in fish, EPA and Wisconsin launched a joint study, which showed that sludges from several bleached kraft pulp and paper mills contained dioxin, apparently a byproduct of the pulp bleaching process. Similar results were obtained in Minnesota and Maine. Fish consumption advisories have been issued for areas below the mills. A follow-up study of five such mills nationwide found dioxin in effluents of three of the mills and in sludges of all five mills. EPA and the States are working on ways to reduce dioxin levels in these effluents.

Fish

In the national study, fish were collected from 395 sites, 80 of which were in EPA Region 5 and 29 in the Great Lakes, some outside the Region. Fish from 112 of the national sites and from 23 of the Great Lakes sites were found to be contaminated with dioxin. In areas where fish contamination has been the greatest, States have issued consumption advisories and are continuing the sampling. In addition, fish collected by the national study are being further analyzed by EPA.

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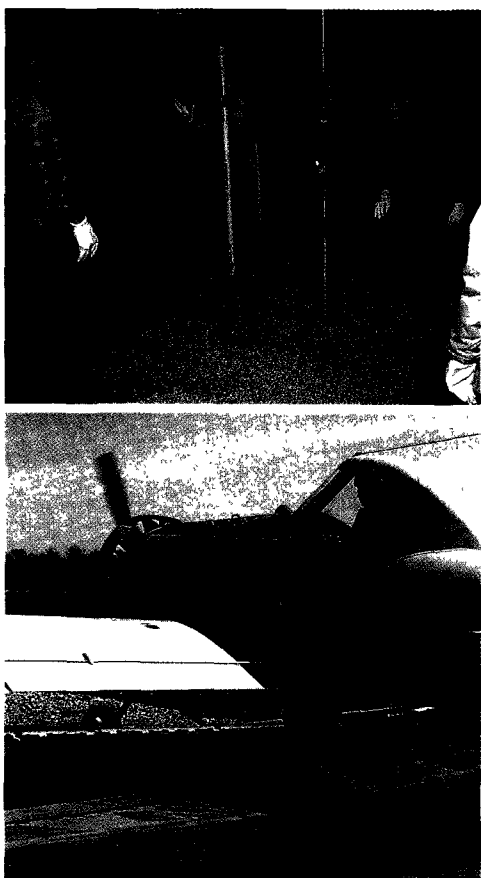
EPA presented a detailed report on the National Dioxin Study to Congress in October 1987.

PESTICIDES

Some pesticides (rotenone, pyrethrum, nicotine) are derived from plants and go back to ancient times. The first wide use of a pesticide to protect crops took place in 1868, when an arsenic-based insecticide—Paris green—was developed. But the era of massive chemical pest control began in 1939 with the formulation of DDT, which EPA banned in this country in 1972.

Today, over 1 billion pounds of pesticides—embracing some 1,500 chemical compounds—are used in the United States every year. About 20 percent of that total is manufactured and used in EPA Region 5.

Pesticides have been able to promote fantastic crop yields (corn, potatoes) and check such mosquito-borne diseases as malaria and yellow fever. However, there was a price. Pesticides have been linked with acute poisoning, birth defects, sterility, and other maladies in humans. Improper use and disposal have also harmed the environment.



All pesticides registered

Congress passed the *Federal Insecticide, Fungicide, and Rodenticide Act* (FIFRA) in 1947, last amended in 1978. It is the main law under which EPA controls the manufacture, distribution, and use of pesticides. The main responsibility of EPA under FIFRA is the registration of all pesticides sold or used in the United States, including those regularly used in homes. Every pesticide product must have an EPA-approved label and an EPA registration number. Such a product must not be used for any other purpose than that stated on the label.

17 criminal cases

As authorized by law, EPA has turned over to the six regional States the primary responsibility of enforcing FIFRA regulations. Under the enforcement program, which to date totals

Top State inspectors being trained on proper use of phosphine in grain fumigation. Bottom Crop-dusting aircraft at mixing-loading site.

11.6 million in EPA grants, these States prepared 17 criminal cases, held 15 administrative hearings, dispatched 481 warning letters, and issued 236 stop-sale orders during the latest 12-month reporting period.

EPA Region 5 dispatched an additional 239 warning letters during fiscal 1987 and issued 37 civil complaints for serious violations of FIFRA, with penalties totalling \$107,970.

(Warning letters went to pesticide users and manufacturers primarily for label violations and product deficiencies. The stop-sale orders were issued for unregistered pesticide products or those with serious violations.)

Over 1,800 inspections

The regional States have also been busy with other aspects of FIFRA enforcement. By the end of the latest 12-month reporting period, they have inspected 424 pesticide producers and 1,384 retailers and have completed 535 agricultural-use and 919 other-use pesticide investigations. Inspectors look for unregistered pesticides, mis-labeled containers, altered labels, adulterated contents, and illegal uses.

Along with enforcement, the States have assumed the responsibility for the certification and training of private and commercial pesticide applicators. During the latest 12-month reporting period, the regional States either revoked, suspended, or modified 70 applicator licenses for various violations of Federal and State law. By the end of fiscal 1987, there were 148,941 private and 32,301 commercial certified pesticide applicators in EPA Region 5.

Besides overseeing State pesticide enforcement and applicator certification programs—and taking direct enforcement actions—duties of EPA Region 5 pesticides personnel include:

PESTICIDES

- monitoring pesticide use by professional pest-control operators, aerial sprayers, farmers, pesticide importers, and homeowners;
- supervising State inspections of the 4,113 registered pesticide producers in the Region;
- conducting laboratory audits to ensure accuracy of data submitted by pesticide producers; and
- providing annual training for State pesticide inspectors.

Testing water wells

A major pesticide project under way by end of fiscal 1987 was the national survey of contamination in drinking-water wells. It will test about 1,500 community and private wells throughout the 50 States for the presence of some 120 pesticides. The pilot program for this survey, which involved Minnesota (one of our regional States), was completed by end of fiscal 1987; the full survey is scheduled for completion by mid-1989.

EPA ACTS ON 4 PESTICIDES

Dinoseb: On October 7, 1986, EPA took emergency action and immediately suspended all uses of this pesticide because of risks associated with field applications. Exposure to Dinoseb during or shortly after application poses very serious risk of birth defects.

2,4,5-T/Silvex: On April 8, 1987, EPA announced procedures for requesting compensation and for disposing of products affected by the 1979 and 1983 suspension and cancellation orders. The announcement was aimed at those not previously compensated for their stocks of Silvex (2,4,5-T). EPA's orders were based, in part, on evidence that one component of Silvex (2,3,7,8-TCCD)—also known as dioxin—poses risks of miscarriage, birth defects, and cancer.

Chlordane/heptachlor: EPA reached an agreement with Velsicol Chemical Corp. on the continued distribution, sale, and use of existing stocks of chlordane/heptachlor products. As of August 11, 1987, Velsicol voluntarily stopped distributing and selling chlordane in this country while it looked at new application techniques for reducing indoor air exposure. Use of existing stocks was allowed until April 15, 1988. EPA's concern stems from evidence that these substances cause tumors in laboratory animals.

TBT: On October 1, 1987, EPA proposed to restrict the use of anti-fouling paints containing TBT (tributyltin). EPA has determined that these products may present unreasonable risks to mussels, clams, oysters, and fish—all aquatic "good guys." TBT compounds have been registered since early 1960's to keep boat hulls, buoys, crab pots, fishnets, and docks clear of certain marine organisms.

Although both pleasure and commercial craft on the Great Lakes are sometimes painted with TBT paints, there have been no major trouble spots identified. (TBT was banned by Michigan in May 1987.)

STATE PESTICIDE AGENCIES

Illinois

Bureau of Plant and Apiary Protection
Illinois Department of Agriculture
State Fairgrounds, P.O. Box 4906
Springfield, IL 62708-4906
(217) 782-3817

Pesticides & Vector Control
(Structured Pest Control Only)
Division of Engineering & Sanitation
Illinois Department of Public Health
535 W. Jefferson St.
Springfield, IL 62761
(217) 782-4674

Indiana

Indiana State Chemist Office
Department of Biochemistry
Purdue University
West Lafayette, IN 47907
(317) 494-1587

Michigan

Plant Industry Division
Michigan Department of Agriculture
P.O. Box 30017
Lansing, MI 48909
(517) 373-1087

Minnesota

Agronomy Services Division
Minnesota Department of Agriculture
90 W. Plato Blvd.
St. Paul, MN 55107
(612) 296-8547

Ohio

Division of Plant Industry
Ohio Department of Agriculture
8995 E. Main St.
Reynoldsburg, OH 43068-3399
(614) 866-6361

Wisconsin

Assistant Administrator
Wisconsin Department of Agriculture
801 W. Badger Rd
P.O. Box 8911
Madison, WI 53708
(608) 266-7135

OUR WATER



Sparkling waters lap a pebbly shore

The Water Quality Act of 1987, recognizing more than three decades of achievement under earlier clean-water laws, picks up the fight against two stubborn foes: toxic pollutants and nonpoint-source pollution. The latter is pollution from large areas that are highly dispersed, such as runoff from farmland, city streets (winter salt, especially), construction sites, and mines.

To reach the goals of our clean-water legislation, EPA Region 5 and the States will focus on discharge permits for all point sources—readily identifiable, single outlets such as pipes and ditches. These permits will aim to control toxic pollutants still being poured into the Nation's waters

NPDES permits

The *National Pollutant Discharge Elimination System* (NPDES) permits set the standards for controlling most point sources of pollution. In EPA Region 5, all such permits are administered by the States, subject to EPA overview. There are about 1,200 major and 14,000 minor wastewater dischargers in the Region. Of the major dischargers, 95 percent are today in full compliance with their current 5-year NPDES permits, which specify the kinds and amounts of pollutants to be discharged. As these permits are renewed, they will be modified to reflect more stringent control of toxicants.

Violators prosecuted

When industries or cities violate these permits, often killing fish or contaminating water supplies in the process, EPA does not stand idle. For example, in 1986 and 1987, EPA Region 5 referred over 40 cases to the Department of Justice for prosecution. And the States took many more to their attorneys general.

In 1987 alone, EPA Region 5 resolved 13 earlier lawsuits, with penalties of more than \$1.5 million...not counting any costs for equipment and construction that were required by the court.

The new 1987 clean-water act considerably strengthened EPA's authority. It increased civil fines up to \$25,000 per day for violators and now allows EPA itself to assess administrative fines for NPDES permit violations, up to \$125,000.

Pretreatment standards

Besides complying with their NPDES permits, industries who discharge wastewater into municipal sewage systems must also comply with *National Pretreatment Standards*. These standards ensure that industrial discharges don't interfere with the treatment of sanitary (domestic) wastes, or pass through the sewage plant untreated, or contaminate the sludge with toxic pollutants.

EPA Region 5 and the States now oversee 332 such pretreatment programs administered by municipalities.

Construction grants

Perhaps nothing has had more impact on clean lakes and streams than EPA's construction grants program, started back in 1956 under the early clean-water laws.

During fiscal 1987, EPA Region 5 awarded *\$431.3 million in construction grants* to help local governments build or upgrade sewage treatment plants and other facilities designed to improve water quality. A total of 141 treatment plants and other projects began operating that year, and 180 more were scheduled for start-up in fiscal 1988, when *\$637.8 million in grant funds* were projected.

One of the largest municipal wastewater construction projects is now under way in **Milwaukee**, where EPA Region 5 has contributed *\$414 million* toward a \$1.7 billion water pollution abatement program. When completed in the mid-1990's, it will provide a highly reliable form of secondary (bio-chemical) wastewater treatment at the city's Jones Island and South Shore plants. What's more, the discharge of combined sewer overflows to Milwaukee-area waterways and **Lake Michigan** will be virtually eliminated.



Jones Island wastewater treatment plant in Milwaukee

The new 1987 clean-water act phases out the construction grants program by 1990. But local governments will not be left high and dry. EPA will continue to help finance municipal sewage treatment plants through a new *State revolving-fund system*. Regional States are slated to receive over *\$1.8 billion* through fiscal 1994 under this State-managed system.

One stipulation: States must first use these funds for projects that will put individual plants in compliance with certain requirements of the new clean-water act. Remaining funds may then be used for other projects related to treatment of wastewater or control of pollution from nonpoint sources.

Further clean-water efforts

● In August 1987, to control the discharge of toxic pollutants more effectively, EPA Region 5 distributed to the States and other interested parties a *Toxicity Control Strategy*. Its aim is to gather all available information, such as chemical analyses and toxicity test results, for the development of strong, enforceable NPDES permits.

● In a pilot program to control toxicants in watersheds, the *Lake Michigan Toxic Pollutant Control-Reduction Strategy*

is being put into effect. It contains a master plan, signed by EPA and the four Lake Michigan States, for ending the toxic substances problem in the lake.

● EPA Region 5 has also prepared an *Antidegradation Policy*, which is being incorporated into State water quality standards. This will ensure that streams are not degraded by new pollutants without compelling reasons.

● EPA Region 5 has continued to support State efforts for cleaner waters by setting up a *Regional Water Quality Standards Workgroup*. Among other activities, workshops on water monitoring, permit writing, and water quality standards are being held throughout the Region.

● Four of the six regional States have submitted, and received approvals for, their updates on water quality standards. And Indiana submitted a standards package that includes a comprehensive update on toxicants.

● The new 1987 clean-water act requires States to develop lists of specific (point) sources and amounts of toxic pollutants being discharged from them, as well as individual control strategies for such sources. The deadline for these lists was set for February 4, 1989.

WATERSHED MANAGEMENT

EPA Region 5 has developed a management team responsible for the protection of our watersheds—land areas that drain into the Region's lakes and streams. The team's goal is to combine the Wetlands Protection and the Clean Lakes Programs with effective control of pollution from nonpoint (mostly agricultural) sources. Our waters directly reflect the status of surrounding land: If the land is polluted, the lakes and streams cannot help but be polluted, too.

Clean Lakes Program

This program is designed to help clean up the most polluted and the most heavily used of the 29,235 fresh-water, publicly owned lakes in EPA Region 5. It has funded 99 projects since 1976.

The concept of sound watershed management under the Clean Lakes Program was amply demonstrated at **Lake L-Aqua-Na, IL**, and **Big Stone Lake, MN**, recently. These two projects were enormously successful not only because all the right things were done (erosion and animal waste control, stream-bank stabilization) but also because all citizens were 100 percent behind them.

Nonpoint pollution control

EPA Region 5 is working with other Federal agencies and the States to reduce the pervasive nonpoint-source pollution that is primarily responsible for fouling so many of our lakes and streams. Under the new clean-water act of 1987, a *National Nonpoint-Source Program* has been created. All six regional States have adopted this program, modeled in large part on Wisconsin's own pioneering efforts.

EPA's Great Lakes National Program Office has also developed and put into practice the *U.S. Phosphorus Reduction Plan* under a new agreement with Canada. (See "Our Great Lakes" section of this report)

Wetlands protection

Often thought of as useless, mosquito-laden swamps, wetlands are a fragile but vital natural resource that includes marshes, bogs, potholes, mud flats, natural ponds, and similar areas. Teeming with plant and animal life and valuable to our economy, wetlands are natural flood control and water purification agents. But they are being destroyed at a fast clip. An estimated 300,000 acres are lost nationwide every year.

To stop or at least slow down these losses, EPA works closely with the U.S. Army Corps of Engineers under a *dredge-and-fill permits system*, where EPA recommendations in fiscal 1987 saved 689 acres of wetlands from destruction. Even when the demise of wetlands is unavoidable, EPA insists that offsets be made. In 1987, for example, the Illinois Tollway Authority agreed to replace destroyed wetland acreage with other land of approximate ecological value. In addition, it bought and donated a 20-acre prairie to the **Du Page County Forest Preserve** and relocated certain rare Illinois plant species that would have otherwise been lost.

So far, Michigan is the only State in the country approved by EPA to run the wetlands program, but talks are under way with Minnesota and Wisconsin. Minnesota took a major environmental step forward by officially placing under protection all 22 of its calcareous (limestone) fens, which are low lands partially underwater.



A stream bank stabilized with rocks helps prevent erosion and sedimentation on an Indiana farm

DRINKING-WATER QUALITY

Water covers 80 percent of the earth's surface, but only 1 percent of it is fresh and accessible for human use. The Nation's public water supplies provide every customer with about 160 gallons of clean water every day.

Since safe drinking water is essential to good public health, more and more effort is being devoted to making sure that:

- pollutants don't get into our sources of drinking water; and
- pollutants are removed before water gets to the consumer.

The *Safe Drinking Water Act*, amended in 1986, requires EPA to set standards for drinking water purity and monitoring. These standards apply to community (city, town) water systems as well as to small, public water systems that include rural trailer parks, factories, schools, motels, and restaurants. In response to the new amendments, EPA in 1987 established maximum contaminant levels for eight volatile organic chemicals (VOC's) and for an additional 51 manmade chemicals. Standards for many more chemicals will be set in the next few years, as soon as the chemicals' toxicity and prevalence in drinking water are established.

Extent of contamination

VOC's are mostly solvents, widely used by industry and homeowners. EPA sampling over the past several years has shown that about 10 percent of community water supplies in EPA Region 5 contain minute amounts of VOC's. Public water systems have quickly responded with treatment to clean up their water and thus protect the communities' health.

While such measures can remove manmade chemicals from water, it is even better to avoid contamination in the first place. Public education efforts will help keep our water safe by making

people aware that leaks, spills, careless use, and haphazard disposal of VOC's can contaminate underground sources of drinking water—our precious aquifers.

Although majority of the estimated 8,300 community water systems in EPA Region 5 are in compliance with Federal drinking-water standards, there are exceptions. Tests have shown that about 154 of these systems in **northern Illinois, central Wisconsin, and Upper Michigan** have excessive levels of naturally occurring radium in their wells. Plans are being made to tap other water sources or to remove the radium. All systems are expected to be in compliance within 5 years.

To help States with their drinking-water programs, EPA Region 5 during fiscal 1987 has awarded \$4.8 million

to Illinois, Michigan, Minnesota, Ohio, and Wisconsin. (In Indiana, the drinking-water program is administered directly by EPA Region 5.)

Ground-water protection

More than half of all Americans depend on ground water for drinking and other domestic needs. Yet, ground water is very easily contaminated. And once contaminants get into ground water, it's very difficult—if not impossible—to get them out.

Ground-water protection falls under several environmental laws, but to further safeguard this vital resource, in 1984 EPA announced its *National Ground-Water Protection Strategy*. It divides ground water into three classes, based upon its use, value to society, and degree of vulnerability to contamination. This way, EPA's efforts can be concentrated where they are needed most.

As part of this strategy, EPA Region 5 has established an *Office of Ground Water*, which coordinates all regional and national ground-water protection programs. One of these is the *Wellhead Protection Program*, under which States must develop plans to protect from contamination the areas surrounding public water-supply wells. Once these areas are jointly designated

DRINKING-WATER QUALITY

by EPA Region 5 and the States, sources of contamination within these areas will be inventoried for appropriate protection measures.

(Since Congress did not provide any funds for fiscal 1988, State activities under this program are expected to be limited.)

A requirement of the Safe Drinking Water Act is the *Sole-Source Aquifer Program*, which singles out for protection valuable or irreplaceable ground-water supplies. In 1987, EPA Region 5 designated its first two sole-source aquifers in **Pleasant City** and **Catawba Island, OH**. This means that EPA may veto any federally funded project that threatens to contaminate these aquifers. In fiscal 1988, three more aquifers were being considered for sole-source designation.

The Office of Ground Water also provides technical and financial support to the States, to develop or enhance their ground-water protection programs. In 1986 and 1987, EPA developed technical guidance to help the States determine wellhead protection areas.

In fiscal 1987, EPA Region 5 provided almost *\$1 million* to the six regional States for their ground-water protection programs. By the end of fiscal 1988, all six States will have ground-water protection strategies in place.

Underground injection control

To protect underground sources of drinking water from various wastes injected into wells, EPA administers the *Underground Injection Control (UIC) Program*. The States run this program in **Illinois, Ohio, and Wisconsin**, while EPA Region 5 is directly responsible for it in **Indiana, Michigan, and Minnesota**. All wells are divided into five categories:

Class I wells are used for hazardous, industrial, or municipal wastes and are found below underground sources of drinking water.

Class II wells are associated with oil and gas production and make up the majority of all injection wells nationwide.

Class III wells are used in solution mining, and in EPA Region 5 are found only in Ohio and Michigan.

Class IV wells are used for disposing of hazardous or radioactive wastes into or above drinking-water supplies. These wells are usually banned, unless connected with a Superfund cleanup.

Class V is a catch-all category that includes storm-water runoff wells, agricultural drainage wells, and domestic wastewater disposal wells. In EPA Region 5, they are found in significant numbers in all States.

In fiscal 1987, EPA Region 5 tested nearly 700 UIC wells for mechanical integrity, made 11 permit decisions for Class I wells, and 206 permit

decisions for other classes of wells. Furthermore, EPA Region 5 took enforcement action in 19 instances and was the *first Region nationwide to win a criminal case*, which put a company president behind bars for 3 months after he admitted tampering with a Class II well.

And in 1987 EPA started proceedings to revoke Illinois' authority to run its own UIC Program for Class II wells after routine audits revealed serious deficiencies that the State was not willing to correct. Since then, however, Illinois has made substantial progress in this area; as a result, EPA Region 5 is considering stopping the revocation process.

In 1988 EPA Region 5 started reviewing operations of all Class I hazardous waste wells, which—under the latest hazardous waste amendments—must stop accepting such wastes...unless it can be shown that *there is no threat to human health or the environment*.

EPA Region 5 has also been working with Indiana to help it take lead responsibility for Class II (oil and gas) wells by late 1988.

OUR GREAT LAKES

The five Great Lakes—**Superior, Huron, Michigan, Erie,** and **Ontario**—form the largest body of fresh water on earth. These inland seas, shared by the United States and Canada, provide drinking water to some 42 million Americans and Canadians and support a vast industrial and agricultural empire that represents the heartland of America.



View of upper Lake Michigan from Mackinac Island, MI

Fragile ecosystem

Despite their immense size and immeasurable value as a natural and economic resource, the Great Lakes form a very fragile ecosystem, sensitive to all types of pollution. They are a basically closed system: Less than 1 percent of their water flows out via the St. Lawrence River into the Atlantic every year. Therefore, when pollutants reach the Great Lakes, they tend to stay for a long time. They settle into sediments and enter the food chain, passing from one organism to another and accumulating in top predators, such as lake trout, eagles ..and people.

Although exploited and degraded during the development of industry, agriculture, and cities within their

basin, the Great Lakes—especially Lake Erie—have shown remarkable recovery in response to pollution control efforts. The major factor is the nearly *\$8 billion* spent by Federal and State governments for the construction and upgrading of more than 1,000 sewage treatment plants in the Great Lakes Basin. This brought under control the discharge of raw sewage and phosphorus—the main causes of excessive algae growth and *eutrophication*, or premature aging, of lakes.

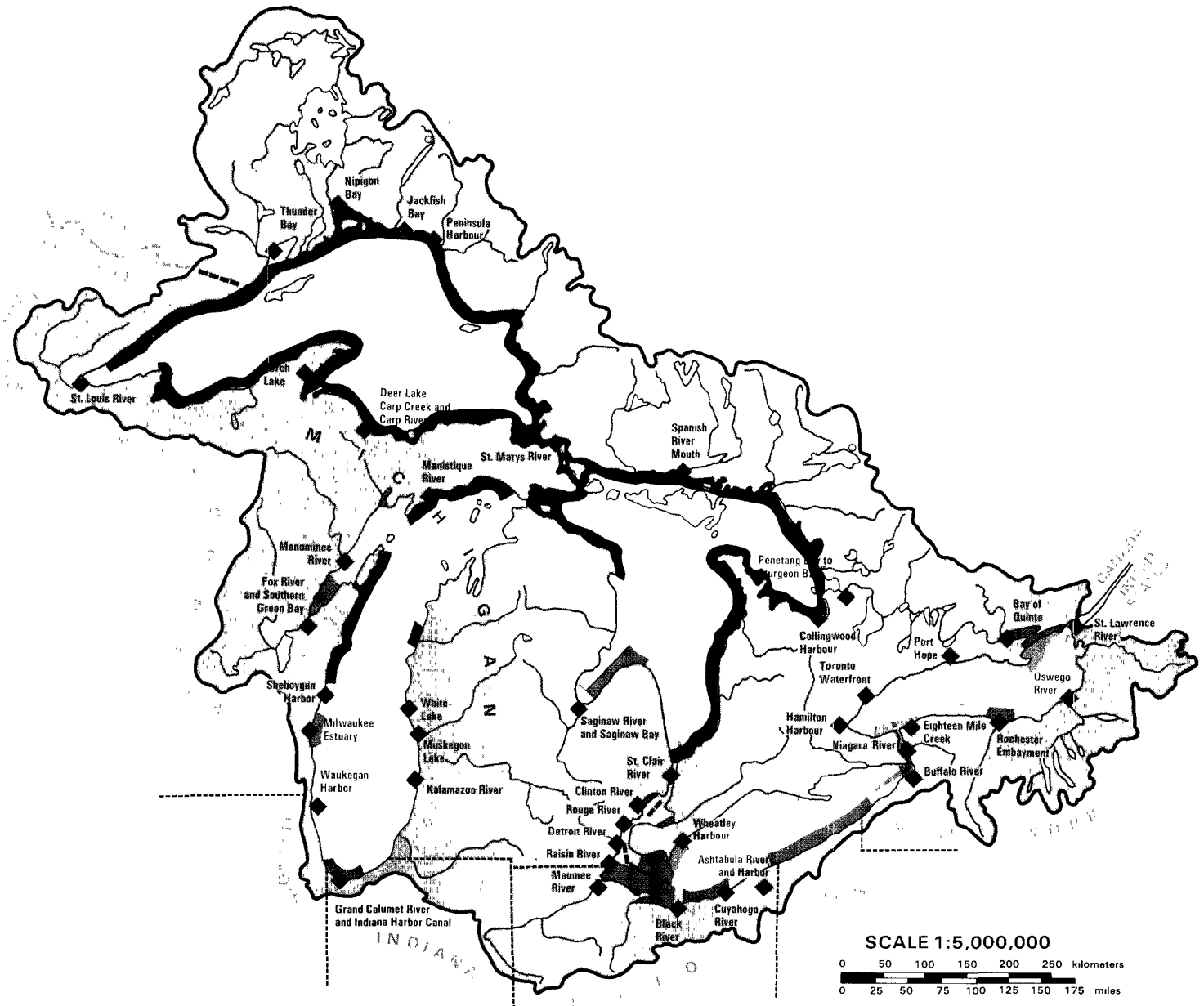
Control of accelerated eutrophication is nearly complete. To eliminate remaining eutrophication problems in **Lake Erie, Lake Ontario,** and Lake Huron's **Saginaw Bay**, the United States and Canada have prepared a phosphorus-load reduction plan, which is now being carried out by EPA, U.S. Department of Agriculture, and the States.

Toxicants remain

The cleanup of gross pollution in the Great Lakes is recognized throughout the world as a great success. However, toxic pollutants in sediment and fish remain a serious threat to human health and the environment. Toxic pollutants include such organic chemicals as *PCB's, DDT, dieldrin,* and *chlordane* as well as heavy metals such as *mercury, lead, cadmium,* and *zinc.*

To set the initial stage for cleanup of these toxicants, 42 geographic "*areas of concern*" have been identified by the United States and Canada; 25 of these highly contaminated areas are entirely within the U.S. portion of the Great Lakes Basin, while 5 are on the binational channels connecting the Lakes. Cleanup plans are being

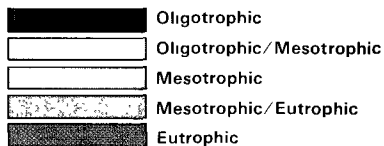
AREAS OF CONCERN AND TROPHIC STATUS



AREAS OF CONCERN

TROPHIC STATUS

Biological Productivity,
From Low (Good) to High (Bad)



Data available for Great Lakes
coastal areas only. Coastal bands
not drawn to scale

OUR GREAT LAKES

prepared by the States, and strong local community participation has been stimulated in the process.

Cooperation with Canada

The basis of U.S.-Canadian cooperation on Great Lakes problems is the 1909 *Boundary Waters Treaty*, which affirmed the right of both countries to use these international waterways and decreed that neither country has the right to pollute the other's waters. The treaty also established the *International Joint Commission* (IJC) to help the two governments deal with transboundary pollution and water problems.

The *Great Lakes Water Quality Agreement*, signed in 1972 and updated in 1987, is based on the treaty and describes how the two nations will restore and maintain the environmental quality of the Lakes. The agreement also called for creation of a *Water Quality Board* to advise the commission on Great Lakes matters.

The agreement today reflects a commitment to designate major toxic pollutants and prepare plans for their cleanup or containment, so that water quality objectives specified in the agreement can be attained.

GLNPO—leading agency

To monitor conditions in the Great Lakes and to ensure that the United States meets its obligations under agreements with Canada, EPA maintains the *Great Lakes National Program Office* (GLNPO) in Chicago. The office was established in 1977—the first organization within EPA to be

solely devoted to a distinct ecosystem or geographical area, the Great Lakes Basin.

In 1987 the Clean Water Act was amended to make many of GLNPO's activities mandatory. The act also calls for an annual report to Congress on progress in fulfilling U.S. commitments under the agreements with Canada.

GLNPO has an extensive surveillance and monitoring program, which measures conditions in the Lakes and traces the sources of pollutants.

GLNPO operates its own 122-foot, 342-ton research vessel, the *Roger R. Simons*, which cruises each year to collect water, biological, microbiological, and sediment samples. The modern, computerized lab on board allows scientists to analyze many of the samples on the spot. In the winter, sampling is done by helicopter.

Based on fiscal 1988 Congressional appropriations, GLNPO is in the process of obtaining a second research vessel. It should be operating by 1990.

GLNPO also participates in a project with other Federal and State agencies to sample contaminants in tissues of fish.

To keep track of pollutants entering the Lakes, GLNPO operates the *Great Lakes Atmospheric Deposition Network* and works with the States to measure pollutants from tributaries.

In addition, GLNPO works closely with various Federal agencies, with eight Great Lakes States (the six Region 5 States plus **Pennsylvania** and **New York**), and with comparable Canadian agencies. It also provides staff support to the EPA Region 5 administrator in his role as EPA's Great Lakes National Program manager and U.S. cochairman of the American-Canadian Water Quality Board.

Great Lakes studies

The Upper Great Lakes Connecting Channels Study—which took a close look at the total aquatic environment in the heavily polluted **St. Marys**, **St. Clair**, and **Detroit Rivers**, as well as in **Lake St. Clair**—neared completion in fiscal 1987. A final report to the EPA administrator is being prepared. The study, launched in 1984, completed some 150 separate projects and was a massive effort that included dozens of U.S. and Canadian agencies and universities.

In 1988, two new GLNPO projects were under way. One is a survey and a demonstration program for the control and removal of *toxic pollutants in the Great Lakes*, focusing on toxic pollutants in bottom sediments. Congress has authorized \$22 million for the 5-year study. This, like many similar studies, is a cooperative effort of Federal, State, and local agencies.

The other project is a 3-year study, in partnership with Wisconsin Department of Natural Resources, which will examine several *toxic chemicals in Green Bay*. A key element of the study is to determine the *mass balance* of pollutants: the amounts entering, accumulating in, and leaving the bay. Using mathematical computer models, the study will then aim to predict how these chemicals respond to various pollution control efforts.

Development of the mass-balance approach is essential to the completion of Lake management plans called for in the agreements with Canada. Much of what is learned in Green Bay will be useful in developing these Lake plans.

LAKE SUPERIOR

Although it is the largest, deepest, and cleanest of the Great Lakes, Lake Superior has its problems. PCB's, DDT, and other pollutants associated with human activity were found in the lake's fish. These pollutants were also found in **Siskiwit Lake** on Lake Superior's Isle Royale, even though Siskiwit is a pristine lake whose only source of water is rain. This finding is a major piece of evidence that underscores the important role played by airborne pollutants.

Because direct sources are few and the lake surface is so large, airborne pollution is believed to be the major source of PCB's and other toxicants in Lake Superior.

PCB levels in lake trout still exceed standards, although toxicants in herring-gull eggs seem to be decreasing.

The lake suffers very little from eutrophication.

The **St. Louis River**, **Torch Lake**, and **Deer Lake-Carp River** have been designated "areas of concern" because of toxic contamination. State agencies are preparing cleanup measures for each of these areas.

LAKE MICHIGAN

Lake Michigan is the only Great Lake entirely within the United States. It has serious pollution problems, partly because it has a very long hydrological retention cycle, which means it takes a long time to flush out pollutants.

Although concentrations of these toxicants have declined over the past decade, Lake Michigan *trout* and *salmon*—along with those in Lake Ontario—still contain the highest levels of PCB's and DDT in the Great Lakes. U. S. Food and Drug Administration has banned the commercial sale of these fish. Consumption advisories for sport fishermen are in effect in many parts of the lake.

Serious water pollution persists near urban and industrial areas, most notably in these "areas of concern:"

Fox River-Green Bay, the **Milwaukee Estuary**, and **Sheboygan Harbor, WI**; **Waukegan Harbor, IL**; the **Grand Calumet-Indiana Harbor, IN**; the **Manistique River, Kalamazoo River, Muskegon Lake**, and **White Lake, MI**; and the **Menominee River, WI-MI**.

LAKE HURON

Next to Lake Superior, Lake Huron remains the least polluted of the Great Lakes. However, nutrients and toxicants discharged into the **Saginaw River** and **Saginaw Bay** have made the latter an "area of concern."

Fish consumption bans continue for parts of the Saginaw River because of PCB's and dioxin. The public is advised to restrict consumption of certain fish caught in Saginaw Bay and Lake Huron.

Pollution in the bay has been greatly reduced, mainly because of effective municipal and industrial wastewater treatment. Solutions to remaining problems caused by eutrophication and toxicants in the bay are complicated by the many sources of pollutants, including industrial and municipal discharges, combined sewer overflows, contaminated sediments, and urban and agricultural runoff, along with waste disposal sites.

Michigan is preparing a cleanup plan to correct the situation.



A satellite portrait of the Great Lakes Basin.

LAKE ERIE

Lake Erie, with an average depth of only 58 feet, holds less water than any other Great Lake. Because its basin has the largest population, the most intensive agriculture, and the heaviest industry in the Great Lakes region, Lake Erie has faced the most severe and the most widely recognized pollution problems. Its small volume and a relatively rapid flushing rate, on the other hand, have allowed dramatic improvements in response to vigorous pollution control measures.

In the mid-1960's, massive algae blooms had choked off oxygen in 65 percent of the lake's bottom water. Heavy pollution, overfishing, and other problems almost destroyed the lake's most desirable fish. Many beaches were closed because of untreated sewage and masses of algae. In fact, the lake was considered dead.

But "death" was premature. Considerable progress has been made since then, especially in reducing municipal and industrial discharges. Consequently, beaches have been reopened, and sport fishing has rebounded.

The amount of phosphorus discharged by cities is now within the required limits. However, runoff from farms and other nonpoint sources is still a problem. Farmers are urged to use alternative tillage methods that reduce soil losses, improve water quality, and cut farming costs.

Despite progress in cleaning up gross pollution (including eutrophication), toxicants remain a major concern, especially in near-shore areas. "Areas of concern" are on the **Rouge, Detroit, and Raisin Rivers** in Michigan; on the **Maumee, Black, Ashtabula, and Cuyahoga Rivers** in Ohio; and on the **Buffalo River** in New York.

LAKE ONTARIO

Downstream in the Great Lakes system, Lake Ontario receives nutrients and toxicants from the other Lakes as well as from its own basin.

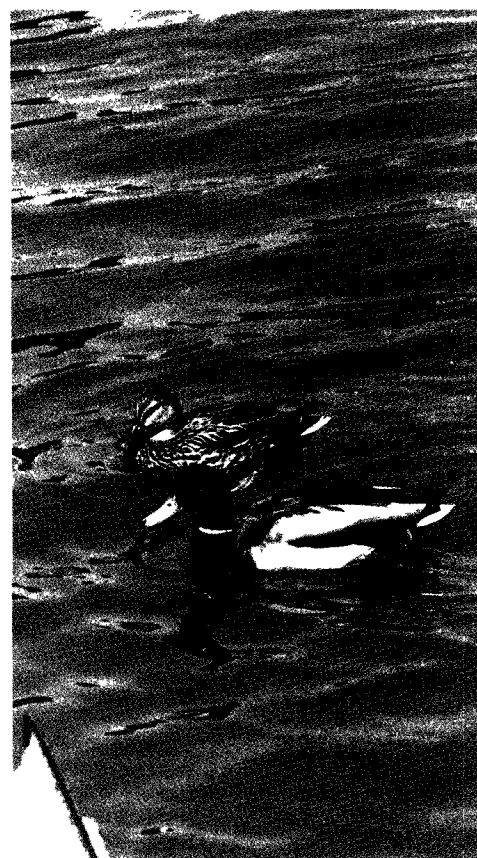
Because of nutrient control in the United States and Canada and improvements in Lake Erie, amounts of phosphorus entering Lake Ontario are now almost low enough to eliminate nuisance algae.

Toxicants in sediments and in aquatic life continue to be a major problem. U. S. sources, chiefly along the **Niagara River**, and Canada's industrial complex along the western shore have discharged PCB's, Mirex, and numerous other toxicants into the lake. Some compounds have been traced to leaking waste disposal sites along the Niagara River.

As in other Lakes, toxicants in herring-gull eggs have declined. However, levels of toxicants in the system still endanger human health. Consumption advisories are in effect for various fish caught in both U. S. and Canadian waters.

Some improvement has been made, but pollution control efforts must continue. High priority is given to reducing point and nonpoint sources of toxicants along the Niagara River, where a four-party accord has been signed by EPA, New York State, Environment Canada, and Ontario Province.

In addition to the Niagara River, Lake Ontario "areas of concern" in the United States are the **Eighteen Mile Creek**, the **Rochester Embayment**, and the **Oswego River**. Downstream on the St. Lawrence River are two more: in **Massena, NY**, and **Cornwall, ON**.



Ducks appreciate clean water, too.

OUR SPECIAL CONCERNS



Indian Environmental Liaison Steve Dodge presents a peace pipe to EPA Deputy Administrator A. James Barnes

Indian Affairs

In 1984, EPA was the first Federal agency to announce a policy for addressing the special concerns of Indian reservations. To date, EPA remains the only Federal agency with such a policy.

The aim of EPA's Indian policy is to pay particular attention to tribal interests and to ensure that tribal governments have a strong voice in deciding on—and managing—environmental programs affecting their reservations.

EPA Region 5 realizes that there are pollution problems on reservations and that the tribal control of environmental protection differs drastically from State control. However, EPA still has every intention of establishing environmental programs on Indian lands so that they will enjoy the same environmental protection that States do

EPA Region 5 has an officially designated *Indian Affairs Coordinator*, who has met with tribal representatives in 1985, 1986, and 1987 to discuss environmental protection on their reservations. Several common concerns (water quality, sewage treatment, and solid waste management) were identified and included as part of "Indian Activities" in workplans of each major EPA Region 5 program: air, water, and hazardous waste.

To help tribes carry out environmental programs and to alert EPA to environmental problems on Indian lands, EPA Region 5 has also designated *Indian Environmental Liaisons*. One such liaison is already working in **Wisconsin**; two others, one in **Minnesota** and one in **Michigan**, are expected to be in the field before the end of 1988.

Federal Facilities

Federal facilities—from post office buildings to military bases—are subject to all environmental laws and regulations, just like private facilities are. In fact, the EPA administrator has said that in complying with pollution control regulations, Federal facilities should set an example for others.

EPA's *Federal Facilities Compliance Program* sees to it that such facilities obey all environmental laws. The program accomplishes this through monitoring, providing technical advice on compliance with environmental laws, reviewing pollution control plans of Federal agencies, and resolving disputes regarding violations of environmental laws.

To identify the most pollution-prone Federal facilities in the Region, EPA's National Enforcement Investigations Center in Denver has ranked 80 of them. These Federal facilities were selected because they were a potential major source of at least one type of pollution: air, land (hazardous waste), or water.

To ensure compliance and to make Federal facilities a model for the rest of the regulated community, EPA Region 5 in 1987 began what is known as a *Multimedia Inspection Program*, targeting the highest-ranked facilities to be inspected first. This program examines Federal facilities in 17 areas for compliance with environmental laws and singles-out offenders for whatever action is necessary to bring them into compliance.

EPA is also in the process of establishing a *Federal Facilities Docket*, which will list Federal facilities with the worst hazardous waste problems. EPA will approve and oversee the cleanup method selected, but the actual clean-up of hazardous wastes will be done by the Federal facilities themselves.

U.S. Environmental Protection Agency
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277 West Jackson Boulevard
Chicago, IL 60604-3590

MAY WE HELP YOU?

This report has given you some idea of U. S. EPA Region 5 responsibilities, accomplishments, and concerns. If you would like additional or more detailed information, please contact the **Office of Public Affairs, U. S. EPA Region 5, 230 S. Dearborn St., Chicago, IL 60604; (312) 353-2072**. This office has a number of EPA publications, including the Environmental Events Calendar, operates an informal speakers' bureau, and coordinates regional distribution of environmental films. (These services are free.)

All States have environmental agencies to help residents with their environmental questions and problems. If you have an environmental problem, report it first to your local, and then to your State, pollution control agency.

For specific information on U. S. EPA programs, call:

Administrator's Office, U. S. EPA Region 5	(312) 353-2000
Air Pollution	(312) 353-2211
Asbestos	
Schools	(312) 886-6879
Building Renovation and Demolition	(312) 353-2088
Automobile Emissions	(202) 382-4378
Chemical Emergency Preparedness	
General Information	(800) 535-0202
Dioxin	(312) 886-1491
Federal Facilities Program	(312) 886-7500
Great Lakes National Program Office	(312) 353-2117
Fish Advisories	(312) 353-1375
Hazardous Wastes	
Superfund	(312) 353-9773
RCRA	(312) 886-1480
Indian Affairs	(312) 353-1394
Oil and Chemical Spills	
National Emergency Response Center	(800) 424-8802
Region 5 Emergency Response Center	(312) 353-2318
Pesticides	(312) 353-2192
Radiation-Radon	(312) 886-6175
Toxic Substances	(312) 886-6006
Underground Storage Tanks / LUST Program	(312) 886-6159
Water Quality	
Ground Water	(312) 886-1490
Drinking Water	(312) 353-2151
Underground Injection Control	(312) 353-4148
Wastewater Treatment	(312) 353-2121
Wetlands	(312) 353-2307

Other U. S. EPA facilities in Region 5

Center for Environmental Research Information	(513) 569-7562
Cincinnati, OH	
Central District Office (IL, IN, MN, WI) Chicago, IL	(312) 886-5500
Central Regional Laboratory, Chicago, IL	(312) 353-8370
Eastern District Office (OH, MI) Westlake, OH	(216) 835-5200
Environmental Research Laboratory, Duluth, MN	(218) 720-5500
Large Lakes Research Station, Grosse Ile, MI	(313) 675-2245
Motor Vehicle Emission Test Laboratory	(313) 668-4200
Ann Arbor, MI	

STATE AGENCIES

Illinois

Illinois Environmental Protection Agency
2200 Churchill Rd., P. O. Box 19276
Springfield, IL 62794-9276
(217) 782-5562
24-hour emergency number:
(217) 782-3637

Indiana

Indiana Department of Environmental Management
105 South Meridian St.
Indianapolis, IN 46225
(317) 232-8603
24-hour emergency number:
(317) 633-0144

Michigan

Michigan Department of Natural Resources
Box 30028
Lansing, MI 48909
(517) 373-1220
24-hour emergency number (within Michigan only): 1-800-292-4706

Minnesota

Minnesota Pollution Control Agency
520 Lafayette Rd. North
St. Paul, MN 55155
(612) 296-6300
24-hour emergency number:
(612) 296-8100

Ohio

Ohio Environmental Protection Agency
1800 Watermark Dr.
Columbus, OH 43215
(614) 644-3020
24-hour emergency number (within Ohio only): 1-800-282-0270

Wisconsin

Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707
(608) 266-2621
After hour emergencies:
(608) 266-3232

