



1985

Year in Review

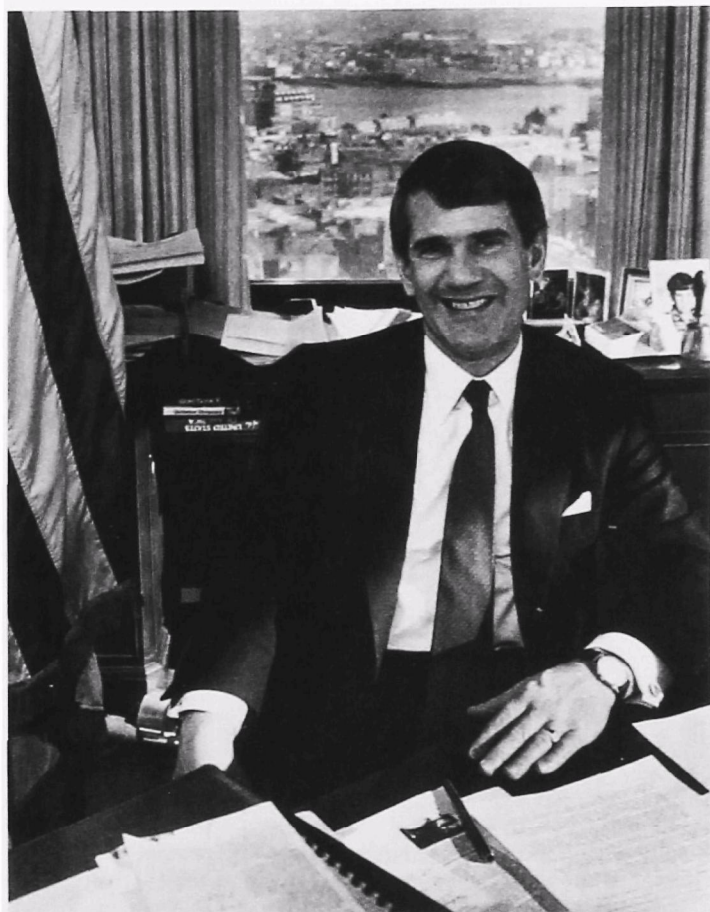
Region I - U.S. Environmental Protection Agency

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MICHAEL R. DELAND

REGIONAL ADMINISTRATOR



Dear Friends of the New England Environment:

Each year our environmental challenges loom ever larger and last year was no exception. However, 1985 was a year in which we won many battles and waged even more in our ongoing campaign to guard New England's environment and protect its public health.

Our successes are due to the unwavering dedication of each and every employee in Region I, to the strong contributions by the Region's six states, to the zealous efforts of environmental groups – large and small – and to the deep concern of all New Englanders for the unrivaled quality of our environment.

Mark Twain once said, "Thunder is good, thunder is impressive. But it's lightning that does the work." This Year in Review presents information about where and how lightning struck in 1985.

I have no higher priority than firm but fair enforcement of our national environmental statutes. Last year, we exceeded our record setting pace of 1984 by issuing 40% more administrative actions and referring 25% more civil and criminal cases to the U.S. Department of Justice. In so doing, we did not simply "run up" numbers but brought tough and meaningful cases to protect our environment and public health.

- For Boston Harbor, 1985 was the "Year of Decision." Historic progress was made to clean up the harbor, currently one of the most flagrant violations of the Clean Water Act in the country. In 1985, we successfully brought suit in federal court as a first step toward a court-enforceable schedule to ensure that harbor cleanup occurs in this century.

Despite tremendous controversy, a decision on siting the new Boston Harbor wastewater treatment facility was made and the environmental impact statement was completed. The stage is now set in 1986 we must maintain this momentum by starting to implement the decisions made last year. High on the agenda for 1986, the "Year of Commitment," are actions to move the Deer Island prison, to develop a schedule to stop sludge discharges into the Harbor, and to designate a Boston Harbor State Park which includes Long Island.

- By denying 301(h) waiver requests that would have exempted the Massachusetts Water Resources Authority and the South Essex Sewerage District from secondary treatment requirements, we reversed long-standing abuses of critical natural resources and set new courses for protection.
- We demonstrated that negotiation rather than litigation is a viable and

preferable way to resolve environmental disputes. At the Keefe Environmental Services site in New Hampshire, we negotiated the nation's first major party Superfund cashout with over 100 responsible parties at a value of almost \$6 million.

- We demonstrated that we have the capacity and the resolve to litigate, when necessary, by winning the nation's first Superfund liability trial at the Ottati and Goss site in Kingston, New Hampshire. This trial, the longest federal environmental trial in the nation's history, lasted over 100 days and resulted in a precedent setting EPA victory on all counts.
- We expanded our emphasis on criminal violations. We obtained the nation's first criminal sentencing in 10 years for violations of EPA asbestos renovation and demolition standards against a Connecticut wrecking company and a building owner. The building owner received a one year sentence (11 months of which were suspended) and both defendants received a \$25,000 fine, were placed on 5-year probation, and were ordered to perform 1,000 hours of community service.

Our continuing enforcement effort is complemented by other priorities and initiatives. Integration across media lines and a focus on system-wide effects of en-

vironmental pollution rank high on this list.

For example, we took significant long-term steps to protect New England's irreplaceable groundwater resources. Working with our state and local partners, we began the arduous process of developing a comprehensive protection plan for the Cape Cod sole source aquifer. This approach emphasizes prevention of contamination not reaction to environmental emergencies. We are hopeful that this pilot project will provide important lessons that can be applied to the management of aquifers elsewhere in the region and the nation.

Inextricably linked to high quality groundwater in our interconnected environment is wetland protection. Drained by farmers, destroyed by developers, dredged for navigation and used as dumps, our wetlands have been lost at a rapid rate. Last year, we took several actions that signal a more active presence in the administration of the federal wetlands program in New England. We initiated a process to provide for public review of a proposed Army Corps of Engineers permit to develop a shopping mall in an Attleboro, Massachusetts swamp. And, we developed a wetlands strategy designed to enhance our ability to preserve these critical resources.

We started comprehensive evaluations of our coastal and marine waters. Working closely with the affected communities, we conducted broad scale environmental studies in Narragansett Bay, Buzzards Bay and Long Island Sound — three of the Northeast's most valued estuaries. These studies, part of the national multi-million dollar effort in four bays, are designed to determine the nature and extent of the threats to these resources and develop long-term protection strategies.

We continued to make headway in long-term cleanup at National Priority List Superfund sites. We started some phase of construction at more than one-half of the Superfund sites in New England and expended over \$85 million. Due to Congressional failure to reauthorize Superfund, we were forced to slow down the program in August 1985. While the slow down postponed long term cleanup at some sites, the contamination is under control in every instance.

Despite the forced slow down, we honored our commitment to respond to hazardous waste emergencies that posed immediate threats to public health or the environment. Where imminent threats existed, we took 18 emergency actions under Superfund at a cost of over \$6 million.

One of our most serious long-range air pollution problems is ozone, more commonly referred to as smog. Ozone (the pollutant, not the atmospheric layer that we need to protect) is formed when volatile

organic compounds (VOCs) mix with oxides of nitrogen in the sunlight. Stationary sources, especially petrochemical plants, dry cleaners and gasoline stations, contribute about 60% of the region's VOC emissions while motor vehicles account for the remainder. The environmental result of continuing emissions is that each summer an estimated two million people in New England suffer health risks because the smog levels are unacceptably high.

Last year, we identified almost 600 stationary sources subject to VOC regulations and developed compliance schedules for these sources. In addition, we testified before the Connecticut legislature to endorse the defeat of a bill that would repeal the state's automobile inspection and maintenance (I/M) program. In another case, we testified before the New Hampshire legislature on behalf of an I/M program for the Nashua area.

While these are by no means last year's only achievements, they do reflect the kinds of actions we initiated in response to our highest priorities.

We accomplished much in 1985, yet much remains to be done. During 1986, we will continue to aggressively enforce the nation's environmental statutes and protect our environment and public health. We will further refine our working relationships with all constituencies: citizens, environmental and business groups, federal, state, and local officials, and the academic community.

In the year ahead, we will continue to seek innovative answers to the unique cleanup questions presented by our hazardous waste sites. We hope to improve our understanding of health risks associated with environmental contamination by creating working arrangements between environmental protection and public health officials. This is a critical initiative that could increase consistency in assessing the risks of exposure to environmental contaminants and which could improve our ability to communicate the nature of what we know and do not know to a frequently confused public.

In 1986, we will continue to assess emerging environmental problems, including lead-in-soil radon gas, and other indoor air pollution. We will persist in meeting the long-term challenges such as Boston Harbor cleanup and wetlands protection.

Rene Dubois once said that we must "think globally and act locally." The environmental challenges of the years ahead require that we act personally to reduce the risks of exposure to pollution.

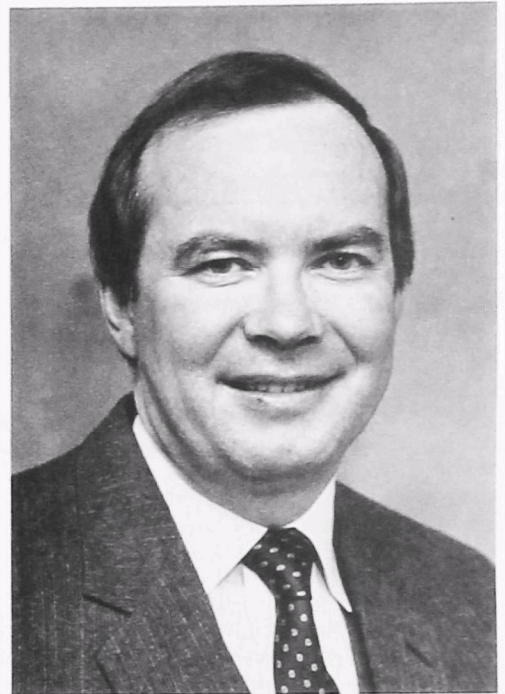
By making informed decisions about our lifestyles and the indoor environments in which we spend 90% of our time, we as individuals can limit our exposure to toxic substances. For example, instituting a smoking ban in EPA offices likely remains the most significant step that I have taken to protect public health.

Reduction of ozone levels, mitigation of indoor air pollution sources, and proper disposal of household chemicals and wastes are other examples of the kinds of solutions that are within our control. To illustrate, since each one of us is responsible for the generation of one ton of waste per year, we can make a significant contribution by reducing the amount of waste that is directly within our control.

As President Abraham Lincoln said more than a century ago, "Public sentiment is everything. With it, nothing can fail. Without it, nothing can succeed." Our environmental challenges are great but, given New England's strong sentiment, we will, together, succeed.

PAUL G. KEOUGH

DEPUTY REGIONAL ADMINISTRATOR



As Deputy Regional Administrator, I am responsible for overseeing the management of the region's day-to-day activities. I also have been asked by the Regional Administrator to direct several critical initiatives important to the agency, to the New England region and to our environment. Enforcement is one area where I have devoted a considerable amount of time. It is the backbone of environmental protection.

In 1985, I continued my role as coordinator of the region's overall enforcement effort. Thanks to the ongoing dedication and determination of our regional enforcement staff, this region met or surpassed all its enforcement goals. In a nutshell, it was a record year. Region I issued 40% more administrative orders, referred 25% more civil and criminal cases to the Department of Justice and collected more penalties than in 1984, breaking that year's record.

In addition, Region I set the pace nationally for developing enforcement procedures. The region now has in place signed enforcement agreements with each of the six New England states for all program areas. These agreements allow the states the first opportunity to take action against violators. In some instances, the states may refer cases to the EPA for federal enforcement; or, when action by the state is not timely or appropriate, EPA can take action.

Mike Deland has made enforcement a

continuing high priority in FY 86, and I intend to see that we implement a tough and aggressive program. Among the region's enforcement priorities for 1986 are:

- Enforcement of regulations to reduce volatile organic compounds (VOCs) emissions which contribute to the ozone (smog) problem;
- Enforcement of the asbestos-in-schools and asbestos renovation/demolition regulations;
- Implementation of the National Municipal Policy (NMP). In New England, 15 municipalities that will not have secondary treatment by the July 1, 1988 deadline will be placed on court-enforceable schedules;
- Development of wetlands protection measures;
- Crackdowns against those who illegally tamper with emission control devices or engage in fuel-switching and
- Aggressive cost-recovery action against responsible parties who refuse to pay their share for cleaning up hazardous waste sites.

Human resources was another priority for me during 1985. I was honored to be elected the first chairperson of the agency's National Human Resources Council. EPA is at the forefront of an effort to attract the best and the brightest to our organization and to strengthen the management skills of our present supervisors. EPA is also committed to improv-

ing the skills of our clerical and secretarial staff. We rotated some of our senior managers to give them a variety of assignments, and we granted some of our employees temporary assignments to state and local agencies under the Federal Intergovernmental Personnel Act.

In the area of civil rights which I direct for Region I, the New England office set the pace nationally for bringing minorities and women into the Agency in 1985. Also, the region set a national precedent by becoming the first region in the country to hire a fulltime Federal Women's Program Manager.

In the area of federal-state partnership, I meet frequently with the state environmental secretaries to assess their performance and to provide a forum for the states to discuss issues of concern. I will continue to hold these meetings since it is essential for us to expand and solidify this growing interdependent relationship. Hence, we include in our report this year presentation from our state counterparts.

As an internal manager, 1986 poses many problems. We will face cuts under the Gramm-Rudman-Hollings Deficit Reduction Act. And, we will face continuing problems in Superfund unless Congress takes action to reauthorize this vitally important program.

While region I faces another busy year in 1986, I am confident this office will continue to show the tremendous progress seen in the previous two years.

AIR MANAGEMENT DIVISION

LOUIS F. GITTO, DIRECTOR



The Air Management Division (AMD) is responsible for the oversight of air, pesticide, environmental radiation and toxic programs in New England. These responsibilities are carried out directly using federal laws, or through state programs. In addition to direct grants to the states, we provide technical support, working in close coordination with state agencies.

Some of the major accomplishments of the Air Management Division this past year include: the highest number of federal air enforcement actions and air inspections in any year; and the nation's first criminal conviction with a jail term in a case involving the demolition of a building containing asbestos.

Stationary sources that emitted excessive levels of volatile organic chemicals (VOCs) and violations of federal rules governing the safe removal of asbestos during demolition and renovation projects was the primary enforcement focus. The Region conducted 199 inspections and resolved 12 cases involving significant violations of air pollution regulations. We issued 13 notices of violation, 22 administrative orders and referred 8 cases to the U.S. Department of Justice. Among the referrals was the criminal case involving a deliberate violation of EPA's asbestos demolition/renovation requirements.

The combined efforts of EPA and the New England states resulted in a high level of stationary source compliance (see Chart 1).

The Air Management Division participated in 3 national air task forces this past year. They include the issues of (1) stack height regulations to determine the

level of emission controls required; (2) emission trading policy to determine what swapping between facilities will be allowed; and the (3) post-1987 ozone task force to recommend ozone control strategy to the Administrator.

CONTROLLING SMOG

Smog (or ozone) is a public health problem in many areas of the country. The East coast is one of the most affected areas of the country. Large population centers generate VOCs and oxides of nitrogen (NOx) which combine with sunlight to form smog. Smog problems are most severe in summer on hot, humid days with little or no breeze.

Even though EPA, the states, local governments, automobile manufacturers, gasoline stations and industry have worked for many years to solve the smog problem, it still persists.

To address the ozone problem, EPA and the New England states have in place strong, enforceable regulations to control VOCs. Early in FY 85, the regional VOC task force developed this Region's VOC stationary source enforcement strategy. It was announced at a technical conference sponsored by the Air Pollution Control Association. The strategy is designed to maximize the benefits of inspections by focusing on those industries with a large number of sources and significant VOC emissions. In the past year, the task force established a good inventory of sources (see Chart 2) and in each state we identified three or four key industrial source categories.

During 1985's state air program audits, the permit and inspection files of over 100 sources were placed on EPA's significant

violation list. This list targets the most important pollution sources inadequately reducing their air emissions. Many other sources were identified for state or federal inspections. Together with the states, the Region will work from this list to achieve compliance with the regulations by 1987.

In addition, the states and EPA are addressing the smog problem through mobile source control. In the past year, Connecticut and Massachusetts have continued to run strong inspection and maintenance programs, and EPA has implemented a new mobile source enforcement strategy.

Also, Region I is on the national VOC task force to ensure that industries in other parts of the country are held to the same high standards as New England industries. The two primary goals of our task force work include controlling industrial pollution upwind from New England and uniformly regulating New England industries and its competitors.

Region I is a principal participant in the national ozone task force. It was created to recommend to the administrator what ozone reduction standards must be achieved by December 31, 1987. If they cannot be, we are working with the New England states to find a solution.

In summary, while we are enforcing existing regulations to control smog, we continue to work on a longer term plan to solve the problem. Efforts include the implementation of a mobile source inspection program, and detection of tampering with automobile emission control equipment. These checks should reduce ozone, carbon monoxide and toxic levels in the air. (see Charts 3-4)

MOBILE SOURCE ENFORCEMENT (CASE STUDY)

Mobile source pollution accounts for a large part of the total emissions of carbon monoxide (CO), oxides of nitrogen (NOx) and hydrocarbons (HC). Connecticut and Massachusetts have statewide inspection and maintenance (I/M) programs for the testing of vehicle emissions and a limited program in New Hampshire starts in September 1987. The I/M programs continue to be very successful in reducing auto emissions.

In addition to I/M, the region fought mobile source pollution by implementing a mobile source enforcement program. In December 1984, Region I began inspections to detect tampering with automotive emission control systems and the use of leaded gasoline in vehicles designed for unleaded fuel. This is a unique regional initiative because the mobile source enforcement program is centralized in EPA headquarters and no other region has pursued its own inspection program. Region I's effort complements the existing national inspection program, allowing EPA to provide broader coverage and quicker response to public complaints.

Recent field surveys show that approximately 10% of vehicles have been misfueled and 16% have been tampered with in New England. The emission control systems are integral to the proper performance of cars. Tampering and misfueling increase driving costs for the motorist because of decreased performance and in-

creased repairs. Most importantly, tampering and misfueling can cause emissions to increase as much as 800%. Overall, automobile pollution is responsible for about 50% of the HC and NOx and 75% of the CO emitted to the atmosphere. Much of New England is still not attaining the nation's ambient air quality standards for CO and smog. (HC and NOx are precursors to the formation of smog.)

Region I inspects service stations, repair shops, automobile dealerships and fleet operations. Depending on the type of operation to be inspected, inspectors sample unleaded gasoline to test for lead contamination, measure nozzles on gas pumps to determine if they are the proper size and examine the premises for evidence of tampering with emission control equipment. If necessary, inspectors examine repair records and invoices and make follow-up inspections of tampered vehicles.

Inspection targets are based on records of previous violations, random selection and complaints received by the regional office. A significant component of the program is a toll-free hot line for the public to report cases of suspected tampering and misfueling. The hot-line numbers are 1-800-631-2700 for Massachusetts and 1-800-821-1237 for other New England states. Clean air counselors from the American Association of Retired Persons support Air Management Division staff in conducting inspections and related public awareness activities.

Cases are referred to headquarters for enforcement follow-up and violators are

subject to civil penalties of up to \$2,500 per violation. New car dealers who tamper with emission controls are subject to penalties of up to \$10,000 per violation. Although Region I's program has only recently begun, we have conducted more than 300 inspections and referred 23 cases for enforcement action resulting in proposed penalties of more than \$250,000. We have determined through discussions with auto service personnel that these actions, and the continuing presence of EPA inspectors in the field, are new and effective deterrents against misfueling and tampering.

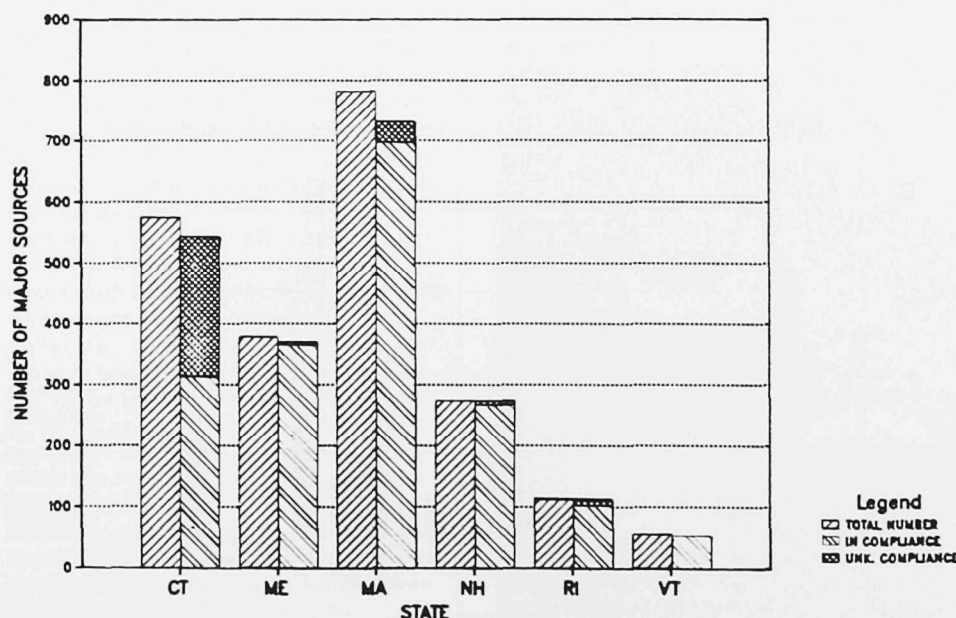
The region awarded \$6.7 million in air program grants to the New England states to be used for the development of SIPs ambient air monitoring of six regulated pollutants and for permit programs for the review of new sources of pollution and the enforcement of permit limits. Thanks to state efforts, Region I continued its 100% on time review of state implementation plans, which set emission limits for existing pollution sources. And, the Region awarded \$565,000 in state grants from a national pool of \$3 million to address potential implementation issue for acid rain control.

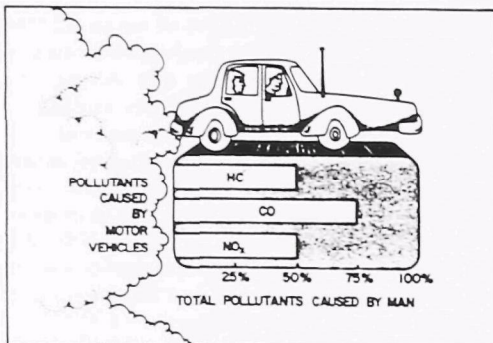
Four of the six New England states and the Northeast States for Coordinated Air Use Management (NESCAUM) received the acid rain grants. Region I serves as a link between national research programs and interested parties in New England and helps disseminate information related to the national acid precipitation program, including the national surface water survey which sampled nearly 800 lakes in the northeast.

The first results of this survey released this past fall showed that 9% of the lakes in the northeast have pH levels at or below 5.5 and 20% of the lakes have acid neutralizing capabilities at or below 50 microgram equivalents per liter. Finally, the Region increased the number of polychlorinated biphenyl (PCB) inspections conducted in the past year by nearly 50%. The 193 inspections resulted in 19 civil and one criminal complaint. Twenty-six notices of non-compliance were issued for lesser violations. Connecticut received a renewed cooperative enforcement grant of \$144,200 for its current year effort. A new cooperative enforcement grant for \$50,876 to New Hampshire will permit greater emphasis on PCB inspection and enforcement in that state.

The Region began several new programs aimed at providing either technical or financial assistance for reducing the risk of asbestos exposure. The region established an asbestos information center, one of three in the nation, at Tufts University

Chart 1
TOTAL NUMBER & COMPLIANCE STATUS OF MAJOR SOURCES





National Center for Vehicle Emissions Control and Safety Department of Industrial Sciences, Colorado State University, Fort Collins, Colorado 80523

in Medford, MA. This allowed for a training and educational program for asbestos hazard identification and control.

A program of financial assistance in the form of interest free loans or grants for asbestos control to needy school districts began with the passage of the Asbestos School Hazard Abatement Act. In FY 85, more than \$2 million was made available to assist 20 projects in New England.

The region is supporting state efforts to establish licensing programs for contractors who handle asbestos. As such, the Region awarded contractor training and certification grants to Connecticut and New Hampshire to assist them in developing these programs.

The Region took action to increase protection for state and local government employees in the workplace. The new asbestos abatement projects regulation applies occupational safety and work practice standards to persons who were not previously protected by any regulation.

Because of limited resources, we conducted fewer inspections to monitor compliance with the asbestos-in-schools rule. However, a more stringent enforcement policy, requiring the issuance of administrative civil complaints with penalties, is in effect and continues to alert school officials and the public to the importance EPA places on asbestos identification and reporting.

The Region addressed air toxics issues through grants, technical support and information exchange.

Specifically, the division participated in work groups like the interstate committee now developing a regional standard for perchloroethylene. In addition, it sponsored a series of workshops for states on issues such as risk assessment, dioxin emissions from resource recovery facilities and accessing automated information systems for toxicological data. The Region initiated a regional radon work group and co-hosted a workshop for federal and state governments, contractors and academicians.

Elevated levels of naturally occurring radioactive gas in homes and buildings is an emerging problem in New England. Radon, at high concentrations found in some isolated locations in New England, is a serious cancer causing health risk. Caused by the decay of natural uranium in mineral deposits, the indoor radon problem has been exacerbated by energy conservation efforts which reduce air exchange with the outside. While the Agency does not have standards to regulate the amount of airborne radon allowable, the division has established an interprogram task force to gather technical information and develop regional responses. In conjunction with NESCAUM, Region I sponsored a radon workshop for the New England states to share this information and to develop coordinated responses to monitoring protocol, health advisories and remediation measures. Such efforts include:

- Working with federal, state and local agencies in refining and testing the radiological emergency response plans for six nuclear power plants in New England, and developing detailed response plans for the Seabrook (NH) station; and
- Providing guidance and technical assistance for non-ionizing radiation, like radio frequency radiation, including detailed modeling in a 0.6 square mile area of Needham, MA which contains six antenna towers serving eight radio and eight television stations. Results indicated that radiation levels are well within acceptable safety limits to protect area residents.

The Region provided technical and grant assistance of \$100,200 to the New England states to train and certify pesticide applicators. During FY 85, the New England states conducted 1,983 pesticide enforcement inspections. In about 45% of these, the division found violations of either federal or state rules. This resulted in 33 license suspensions or revocations.

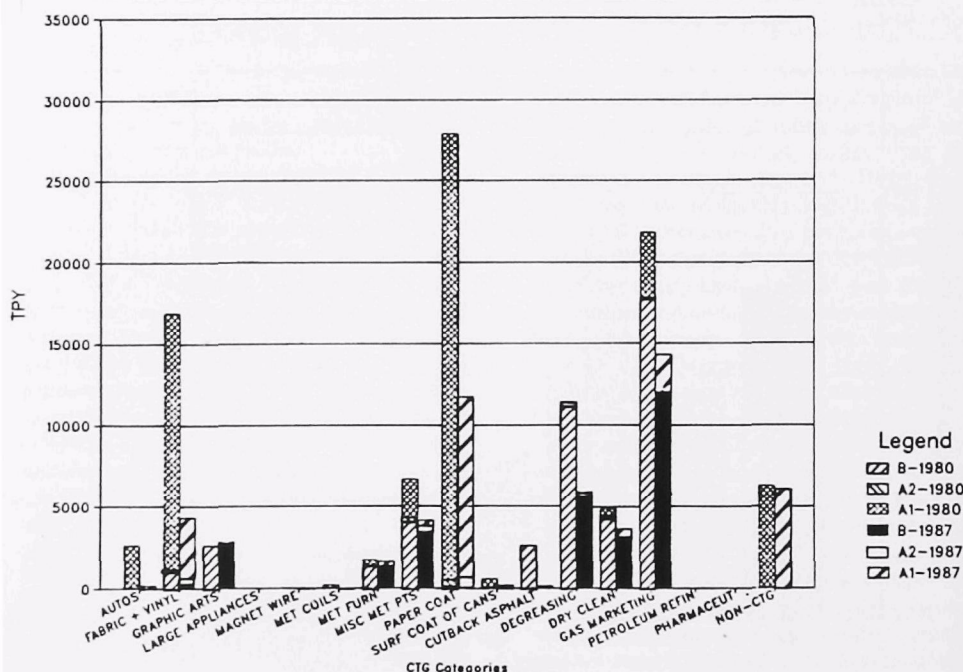
The Region worked closely with Maine's Department of Agriculture and Board of Pesticide Control and with the U.S. Food and Drug Administration (FDA) to investigate a large scale misuse of an unregistered herbicide.

MONITORING PESTICIDE USE

Early in the growing season of 1985, a Maine inspector working under our cooperative pesticide enforcement grant came upon a farmer using one of the newer herbicides on potatoes. A careful use inspection revealed that this pesticide was registered primarily for use on cotton and soybeans but not potatoes. Further checking revealed this was not an isolated incident.

Under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), it is unlawful to use a pesticide for an "unregistered" use. In the registration of a pesticide, maximum residue levels are established for uses involving food or feed crop production. Food or feed which have levels of residue which exceed allowable tolerance levels are subject to embargo or seizure.

Chart 2
MASS CTG VOC EMISSIONS BY SOURCE CLASSIFICATIONS

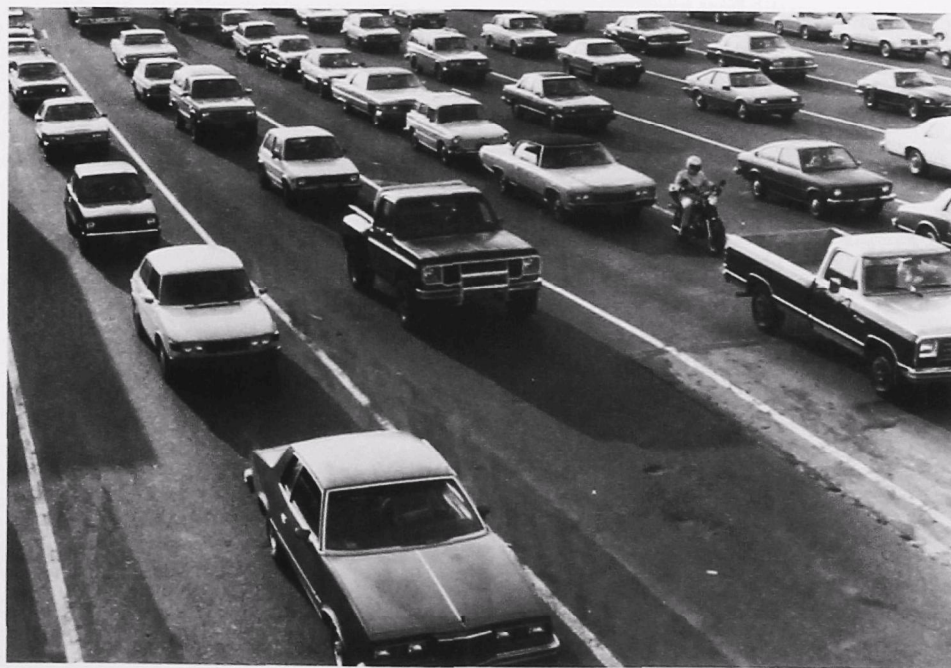
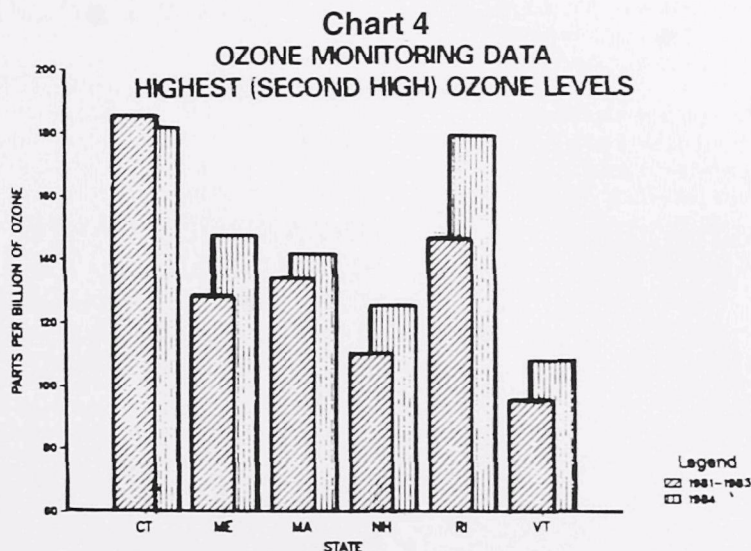
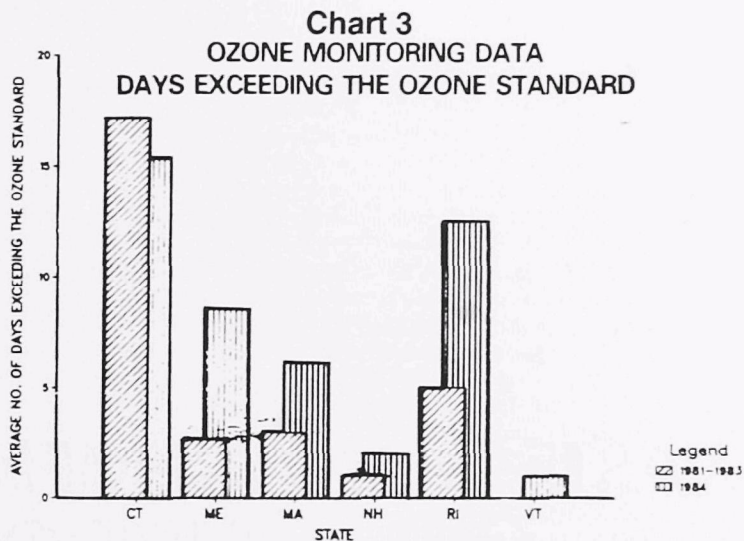


EPA was alerted and worked closely with Maine officials and the FDA to determine the extent of pesticide misuse and the levels of residue present in potatoes. At a strategy meeting between the state, FDA and EPA, plans were made to identify purchases, user locations, extent of use. The group also developed a sampling strategy. Identifying those who purchased the herbicide for illegal use was difficult since sales records for the product are not required. However, careful checking revealed the identity of about 200 who purchased the herbicides. This accounted for an estimated 85% of sales volume. "Stop use" orders were sent to purchasers and promptly followed up by inspections to determine the area treated and disposition of the unused pesticide. Statements were taken from those who indicated sales persons had recommended the illegal use. After use locations were identified, potato samples were collected and an analysis conducted to detect levels of the pesticide residue.

Evidence collected by Maine resulted in fines levied against 106 users and enforcement actions taken against three dealerships. In addition, prompt action stopped the use of much of this material. Fortunately, after repeated analysis of potatoes, the FDA was unable to detect the presence of an illegal herbicide indicating the potatoes were safe for consumption.

Air management initiative for 1986 include:

- continuing to ensure that national air quality standards for sulfur dioxide, total suspended particulate matter, carbon monoxide, ozone, nitrogen oxide and lead are met;
- providing guidance and technical assistance to state agencies in developing SIPs to achieve the ozone standard;
- continuing to stress stationary source compliance, especially VOC and asbestos sources, as well as mobile source compliance including I/M and anti-tampering;
- Increasing efforts on air toxics, indoor air pollution and acid rain;
- continuing the Asbestos School Hazard Abatement Act program;
- enforcing a new fire safety rule on fire hazards posed by transformers containing PCBs in commercial buildings;
- concentrating on enforcement of pesticide use regulations and state plans for certification and training of applicators; and
- continuing to work with states in addressing the radon problem and provide guidance and technical assistance on other radiation issues including low-level radioactive waste disposal.



WASTE MANAGEMENT DIVISION

MERRILL S. HOHMAN, DIRECTOR



Region I's Waste Management Division administers EPA's two federal statutes governing the management of hazardous waste.

The first, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, known as Superfund, created a federal response program to cleanup hazardous waste sites which have resulted from past improper management activities and which present significant risks to health and the environment.

The second, the Resource Conservation and Recovery Act, establishes a regulatory framework for the "cradle-to-grave" management of hazardous wastes.

To achieve the goals of these statutes, our major initiatives this year have been:

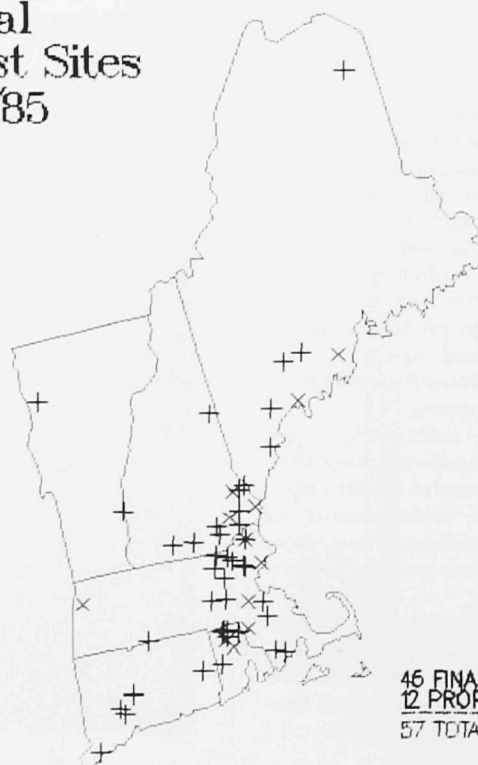
- continued progress in cleaning up hazardous waste sites, placing major emphasis on sites on the Superfund national priorities list;
- private party cleanups of hazardous waste sites or reimbursement of expenses incurred by government in short-term and long-term remedial actions under Superfund;
- implementation of the RCRA waste management program in Region I, giving emphasis to state program development, delegations, permitting, enforcement and monitoring; and
- corrective actions under the broad new authority of the 1984 amendments, corrective actions which require RCRA facility owners and operators to remedy any present or prior contamination problems.

HAZARDOUS WASTE SITE CLEANUP - THE SUPERFUND PROGRAM

EPA has developed a Superfund national priorities list, an increase of 12 sites since 1984.

The total funds committed in Region I's Superfund program through September, 1985 is \$85 million. During this past year, we have initiated some phase of construction at 29 sites. Studies to identify problems and select final cleanup options are either completed or underway at 48 sites.

Chart 5
CERCLIS - Region I
G.M.1 National
Priorities List Sites
As of: 12/12/85



During 1985, Regional Administrator Michael Deland approved nine records of decision, or formal announcements by EPA of the final cleanup remedies to be implemented at:

- Charles George Landfill, Tyngsborough, MA - capping and leachate collection;
- McKin Co., Gray, ME - onsite aeration with groundwater cleanup;
- Plymouth Harbor/Cannon's Engineering, Plymouth, MA - removal of onsite tanks;
- Hocomonco Pond, Westborough, MA - capping of former lagoon area, replacement of storm drain, dewatering of Kettle Pond, and disposal of soil and waste in onsite landfill;
- Winthrop Town Landfill, Winthrop, ME - capping the landfill, completing an alternate water supply and groundwater monitoring;
- Nyanza Chemical, Ashland, MA - consolidation of wastes and capping, groundwater and surface water diversion, post-closure monitoring;
- Western Sand and Gravel, Burrillville, RI - capping contaminated soil and sludges;
- Beacon Heights Landfill, Beacon Falls, CT - closure by capping and leachate collection/treatment, groundwater monitoring and municipal water supply extension;
- Picillo, Coventry, RI - landfilling contaminated soil and sludges.

Interim cleanup measures were undertaken at two sites. The regional administrator authorized \$400,000 to design and install a standby treatment system and restore Well #1, a major drinking water supply for the Town of Groveland, MA. He also authorized \$1.4 million to remove contaminated tanks and buildings, relocate the water main and temporarily cap areas of high soil contamination at the Baird & McGuire site in Holbrook, MA. However new detection techniques led to the discovery of low levels of dioxin at the site and delayed work until the full extent and level of contamination could be determined.

While emphasizing sites on the national priorities list, we often undertake action to protect public health under our emergency authority at sites that may never qualify for the list. Over \$5 million was spent in 1985 on emergency response actions. Region I has used this rapid response authority throughout New England to provide emergency drinking water, fencing of hazardous areas and isolation of asbestos wastes improperly disposed of in residential areas.

In Region I, 1,236 potential hazardous waste sites have been identified and preliminary assessments were completed at 906 sites. The region conducted

McKIN SITE GRAY, MAINE

Recent remedial measures undertaken at the McKin Superfund site in Gray, ME are good examples of how the joint efforts of EPA and private parties can result in private participation in the cleanup of an abandoned hazardous waste disposal site.

The seven-acre McKin site, located approximately 15 miles north of Portland, is an abandoned waste collection, transfer and disposal facility which operated between 1965 and 1978. When organic chemical contamination was detected in nearby residential wells in 1979, an alternate water supply was built. Between 1979 and 1983, EPA removed all surface drums and tanks from the site.

In 1985, the Maine Department of Environmental Protection, funded through a cooperative agreement with EPA, completed studies which determined the nature and extent of contamination remaining at the site and evaluated potential technologies to reduce any environmental or public health hazards. The studies identified volatile organic chemical soil contamination in specific areas on the site and contamination of the nearby aquifer.

On July 22, EPA announced its decision to attack both problems. For the onsite soil contamination, EPA chose to aerate the affected soils under controlled conditions. For offsite groundwater contamination, EPA decided to pump contaminated groundwater and treat it in a new treatment plant to be built at the site.

EPA's decision did not specify whether this work would be done by the government or by private parties with liabilities associated with the site. However, shortly after EPA made its cleanup decision, two companies previously identified by EPA as potentially responsible parties offered to carry out the approved remedy. On August 23, 1985, EPA formally ordered these companies, Fairchild

Camera and Instrument Corporation and Sanders Associates, to begin cleanup activities including a pilot study for soil aeration.

The purpose of the pilot study, to be conducted in the winter and spring of 1986, was to investigate the effectiveness of one or more methods of aerating soil to allow volatile contaminants to evaporate. The aeration must take place in an enclosed environment with continuous air monitoring.

This method of enclosing the soil aeration process and treating air emissions is the first of its kind at a Superfund site. The system is designed to treat soil in an enclosed mixing plant while controlling the levels of air pollutants in the air around the site. To ensure that this happens, an elaborate air monitoring system has been designed for the site and nearby residential areas.

Five permanent air monitoring stations encircle the site and a sixth monitor emits treated air from the soil aeration process. Data from these stations and from a weather tower onsite are continuously fed to a computer in a trailer at the site. The computer records and stores the data and will produce visual and audible signals if activities need to be modified to reduce air emissions. This continuous computerized monitoring network designed for the McKin site is the most comprehensive to have been used this way in New England.

To keep residents informed of the site status and construction schedules, EPA has established a local telephone hot-line in Gray. The hot-line gives periodically updated recorded messages regarding the site status and air quality monitoring, and records the caller's questions. In addition, the EPA project officer meets with local officials and leaders of a citizens group to share information and help EPA in its oversight of this important project.

thorough onsite investigations at 201 sites where further study was warranted. Data from site investigations are used by the Agency to determine which sites pose enough risk to be added to the National Priorities List (NPL). Region I awarded over \$1.5 million in grants to the New England states, much of which was used to help them conduct preliminary assessments and site inspections.

At each site on the national priorities list, EPA seeks to identify parties whose past practices may have been at least partly responsible for conditions at that site. We have the authority to enter into negotiations with these "potentially responsible parties" to arrange for the site cleanup or for reimbursement of the trust fund for

government expenses on site related work. If these negotiations fail, EPA can refer cases to the U.S. Department of Justice for court actions to recover costs incurred by government in cleaning up sites. To date, more than \$20 million in private funds have been committed at 18 sites in New England.

A unique feature of many of the Superfund sites in New England is the large number of potentially responsible parties linked to a particular site. At the Keefe Environmental Services site in Epping, NH EPA successfully negotiated with more than 100 potentially responsible parties. This settlement is also notable for a mechanism that protects the government from the risks of settling before all

response costs are known. At the Silresim Site in Lowell, MA over 200 potentially responsible parties formed the nation's first-of-its-kind trust to conduct a site study. Through an administrative order issued to the trust, EPA oversees and enforces the proper performance of the study.

The Superfund law of 1980 established a \$1.6 billion trust fund with taxing authority that expired on September 30, 1985. As this was written, legislation was under consideration by Congress to renew the Superfund law. Although substantial progress has been made in Region I and throughout the country to address the problem of abandoned and uncontrolled sites, it is evident that much work remains to be done.

Since August 1985, EPA has been forced to operate the Superfund program on very limited funds. The impact of this slowdown of the Superfund cleanup program was the delay in new design and construction projects. Remaining trust funds were earmarked to continue essential Superfund response actions and the continuation of studies. In Region I, this meant that we were unable to provide approximately \$30 million required for construction-related activities at the Nyanza site in Ashland, MA and the Charles George landfill in Tyngsborough, MA.

Despite the Superfund slowdown, we continued to pursue an aggressive enforcement program to require private parties to pay for studies and cleanup. At the McKin site in Gray, ME, which is discussed below, a settlement with responsible parties allowed a cleanup using innovative technology to proceed during the slowdown.

HAZARDOUS WASTE MANAGEMENT - THE RCRA PROGRAM

Region I provided state hazardous waste programs with \$3,775,956 of federal grant assistance in FY 85 and worked closely with state personnel in the following areas:

- providing technical engineering, hydrological and laboratory assistance;
- conducting facility permit application reviews;
- inspecting waste facilities to determine compliance with waste management requirements;
- developing special expertise in the area of storage and treatment of hazardous waste in tanks;
- taking enforcement actions when necessary; and
- assessing the continuing readiness of state agencies to administer components of the federal hazardous waste program.

In addition, Congress appropriated grant funds for FY 85 which were used for activities not traditionally funded by the state program grants. These funds were awarded under \$8001 of RCRA and were used in Region I on four projects to inform small quantity generators of their responsibility under revised regulations, and on a facility siting study.

The RCRA program is designed to prevent future Superfund sites from developing. Through a comprehensive "cradle-to-grave" management process, EPA and the states track hazardous wastes from original generation through transportation, treatment and storage to final disposal. All waste treatment, storage and disposal facilities must have an RCRA permit detailing how they will meet EPA standards for safe operation and maintenance. There are 374 of these facilities in New England. The pie chart shows their distribution.

Because RCRA, like most environmental laws, encourages states to take over the responsibility for program implementation from the federal government, Region I has continued to maintain a strong commitment to the state authorization process. Three New England states have received final authorization to run their own hazardous waste programs.

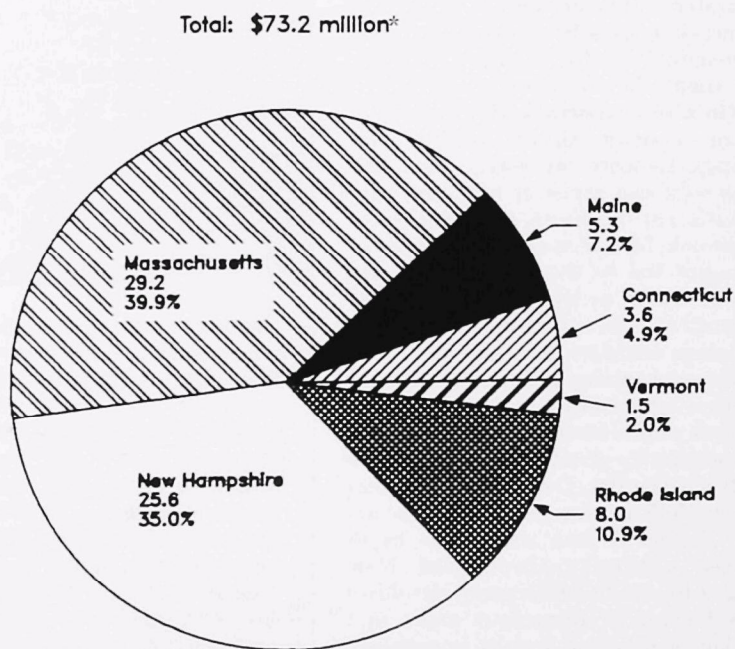
Authorization decisions for other states are pending at this time. Under the statute interim authorization expired on January 31, 1986, at which time those states which had not received final authorization entered into an agreement with EPA to assist in administering the federal RCRA program until final authorization is granted.

RCRA, enacted in 1976, was amended in 1980 and again on November 8, 1984, to reflect changing needs. The 1984 amendments, called the Hazardous and Solid Waste Amendments (HSWA), significantly expanded both the scope and the detailed requirements of RCRA.

One of the most significant changes in the RCRA program is the phasing out of land disposal of hazardous waste. In the future, waste generators will have to reduce the amounts of hazardous waste generated, recycle their waste and use other technologies to the maximum extent possible. Anyone who wants to operate a land disposal facility must meet minimum technological requirements, including double liners, leachate collection and adequate groundwater monitoring. Facility owners and operators are required by the new law to clean up any contamination

Chart 6

Region I CERCLA Expenditures to September 30, 1985



*Does not include regional support activities

Chart 7

REGION I'S NATIONAL PRIORITIES LIST FILE

CONNECTICUT

- Beacon Heights Landfill
Beacon Falls
- Laurel Park, Inc.
Naugatuck Borough
- Solvents Recovery Service of N.E.
Southington
- Yaworski Waste Lagoon
Canterbury
- Kellogg-Deering Well Field
Norwalk
- Old Southington Landfill
Southington

MAINE

- F. O'Connor Site
Augusta
- McKin Co.
Gray
- Pinette's Salvage Yard
Washburn
- Saco Tannery Waste Pits
Saco
- Winthrop Landfill
Winthrop
- Union Charcoal Co., Inc.
So. Hope
- Brunswick NAS
Brunswick

MASSACHUSETTS

- Baird & McGuire
Holliston
- Cannon Engineering Corp. (CEC)
Bridgewater
- Charles George Reclamation Trust
Landfill
Tynsborough
- Groveland Wells
Groveland
- Plymouth Harbor/Cannon
Engineering Corporation
Plymouth
- Re-Solve, Inc.
Dartmouth
- Silvestri Chemical Corp.
Lowell
- W.R. Grace & Co., Inc.
Acton (Acton Plant)
- Wells G&H
Woburn
- Iron Horse Park
Billerica
- Sullivan's Ledge
New Bedford
- Rose Disposal Pit
Lanesboro
- Norwood PCBs
Norwood
- Haverhill Municipal Landfill
Haverhill
- Salem Acres
Salem
- Shepley Landfill
Norton/Attleboro
- Westborough
Westborough
- Industri-Plex 128
Woburn
- New Bedford
New Bedford
- Nyanza Chemical Waste Dump
Ashland
- PSC Resources
Palmer

NEW HAMPSHIRE

- Auburn Road Landfill
Londonderry
- Dover Municipal Landfill
Dover
- Keefe Environmental Services (KES)
Epping
- Ottati & Goss/Kingston Steel Drum
Kingston
- Somersworth Sanitary Landfill
Somersworth
- Sylvester
Nashua
- Tinkham Garage
Londonderry
- Kearsage Metallurgical Corp.
Conway
- Savage Municipal Water Supply
Milford
- South Municipal Water Supply
Petersborough
- Coakley Landfill
Northampton
- Mottolo Pig Farm
Raymond
- Tindets Rd.
Barrington

RHODE ISLAND

- Davis Liquid Waste
Smithfield
- Landfill & Resource Recovery, Inc.
North Smithfield
- Peterson-Puritan, Inc.
Lincoln/Cumberland
- Picillo Farm
Coventry
- Stamina Mills, Inc.
North Smithfield
- Western Sand & Gravel
Burrillville
- Central Landfill
Johnston
- Davis (GSP) Landfill
Glocester

VERMONT

- Old Springfield Landfill
Springfield
- Pine Street Canal
Burlington

which escapes from RCRA facility. This is accomplished through new permit requirements or enforcement remedies. Congress intended to discourage land disposal of hazardous waste because of long-term uncertainties about its persistence, toxicity, mobility and accumulation in plant, animal and human tissue. Certain materials will be excluded unless they receive specific EPA approval. Land disposal can be permitted only if the waste meets pretreatment levels or standards.

The region sent out 183 advisory letters under RCRA §3007 to owners and operators in order to implement the HSWA provision for final permit determinations and certification of compliance with groundwater monitoring and financial responsibility requirements for land disposal facilities. 53 enforcement actions were necessary to enforce the information request.

Environmental cleanup through corrective action orders or permits is a priority

for the agency, and is extremely significant in Region I because of the number of facilities lost their interim status on November 8, 1985 and must close their land disposal units. The agency will be closely overseeing closures throughout the region and believes that necessary corrective action can most appropriately be implemented during the closure process.

As a result of the loss of interim status provision of HSWA, 119 of the region's 141 land disposal facilities must close. Each of these will be inspected by EPA to ensure that they are no longer using their land disposal units. If they are operating, EPA will take administrative civil or criminal action. The 22 companies retaining interim status will also be investigated to assess the legitimacy of their compliance certifications and permit applications. If they are deficient, action will be taken requiring that they cease using the units and penalties will be assessed. Possible criminal action will also be considered for filing a false certification with the agency. (Federal enforcement has been strengthened by Congress through the addition of offenses treated as criminal and by increasing maximum penalties.)

Enforcement of applicable standards for waste handlers is a key component of the RCRA program. To identify any deficiencies or violations, 220 EPA inspections were conducted in FY 85 by Region I, resulting in 105 enforcement referrals to the authorized states. From January 1, 1985 to November 8, 1985, Region I issued 14 complaints and assessed \$317,000 in penalties.

UNDERGROUND STORAGE TANKS

One of the most far-reaching of the new RCRA provisions deals with an estimated one million underground storage tanks in the United States containing hazardous substances or petroleum products. The underground storage tank (UST) program breaks new ground in that, for the first time, RCRA applies to storage of useful materials as well as wastes. Under a new subtitle I, RCRA now regulates underground tank storage of all petroleum products (including gasoline and crude oil) and any substance defined as hazardous under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund).

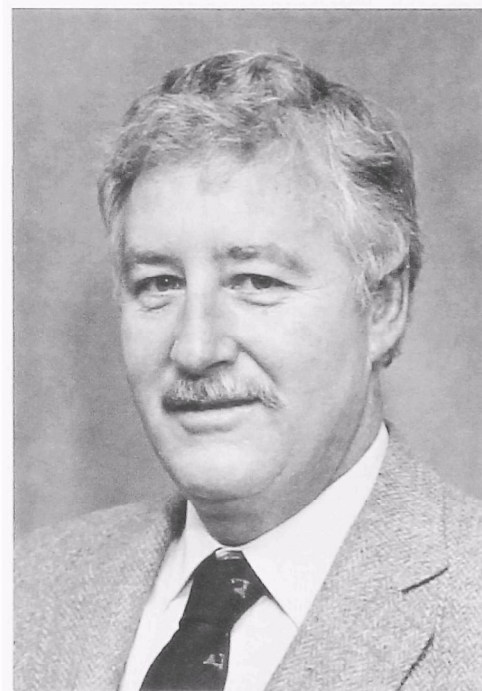
"Underground storage tank" is defined as any tank with at least 10% of its volume below ground, including any pipes attached. Thus, above ground tanks with extensive underground piping may now be regulated. The UST program bans the in-

stallation of unprotected steel tanks, initiates tank registration, coordinates federal and state program development and provides federal inspection and enforcement, and will set technical standards for all new and existing tanks.

The New England states are national leaders in developing regulatory programs for underground storage tanks. Most states in Region I will be regulating tanks well over a year before the eventual federal program. EPA Region I has negotiated state UST grants for FY 86 to assist the states in managing the required registration process, and begin to enforce the federal interim prohibition. The grants will also support certain innovative ideas including a tank installer certification program in Maine, a low-interest loan program for tank replacement in Rhode Island and a videotaped message for tank owners with the University of Connecticut and the Connecticut Department of Environmental Protection.

WATER MANAGEMENT DIVISION

DAVID A. FIERRA, DIRECTOR



The Water Management Division administers the federal Clean Water Act (CWA) for water pollution control, the Safe Drinking Water Act (SDWA) for drinking water protection, provisions of the Marine Protection, Research and Sanctuaries Act (MPRSA) pertaining to the permitting of ocean dump sites, and evaluates environmental impacts of EPA's own and other federal actions covered by the National Environmental Policy Act. This report highlights progress during the past year in restoring and protecting the valuable water resources of New England, including accomplishments in the following priority areas:

- cleanup in Boston Harbor,
- protection of marine and coastal environments,
- protection of wetlands,
- restoration of water quality in lakes and streams,
- development and implementation of strong groundwater protection, and
- state-EPA cooperation.

Approximately 65% of New England's major stream segments meet the CWA standards for fishing and swimming, and approximately 90% of all streams including smaller upland waters meet fishable/swimmable standards. Drinking water is generally of high quality.

THE CLEAN WATER ACT

To restore water quality which protects aquatic life and permits swimming and boating, EPA provides technical and financial assistance to state and local governments for water quality planning, monitoring, permit development and enforcement, construction grant management and groundwater protection. This

year Region I provided more than \$14.4 million to state governments for water pollution control, water quality management planning and management of the municipal construction grants program.

WATER QUALITY PLANNING AND STANDARDS

The New England states began developing control strategies for toxic pollutants and solutions to problems in priority waterbodies.

Assisted by EPA, the states completed field studies and set permit limits on the Naugatuck River in CT, the Pawtucket River in RI and the Ten Mile River in MA. (See Ten Mile River case study.)

EPA awarded clean lakes grants for pollution abatement designed to improve the quality of Lake Waramaug, and Candlewood Lake, CT, Cochewagon Lake, ME; and Lake Moray, VT.

The New England states will enforce standards for the control of toxic discharges and developing antidegradation policies to bring continued improvement of water quality.

NONPOINT SOURCE PROGRAM (NPS)

The national nonpoint source policy and strategy to be applied by federal, state and local governments and the private sector, aims to restore and maintain water quality in critical estuaries, lakes, headwater streams, wetlands and the Cape Cod, MA aquifer. Best management practices (BMPs) are to be adopted by public agencies, farmers, loggers, construction companies and individual citizens.

A series of state-by-state coordination

meetings strengthened cooperation among U.S. Department of Agriculture (USDA), state agricultural/water quality agencies and EPA. Now in its third year, the rural clean water project for St. Albany Bay, VT, with USDA cost sharing, has seen 90% of the problem farms adopt BMPs for animal waste management and conservation tillage to reduce erosion and sedimentation.

The 1986 NPS strategy will target NPS problems discovered in the Narragansett and Buzzards Bay studies, Cape Cod aquifer management program, and critical wetlands, assistance to the states on better control of erosion, sedimentation, and toxics runoff from highway construction and large-scale shopping mall and resort development.

PROTECTION OF COASTAL AND MARINE ENVIRONMENTS

For centuries the estuaries and coastal waters of New England have been receiving industrial and domestic waste effluents, combined sewer and nonpoint source runoff. The resulting degradation in water quality from excess bacteria, heavy metals, nutrients and organic chemicals that have seriously impaired both the recreational and commercial use of the water.

Where wastewater treatment plants were constructed or combined sewer overflows corrected, noticeable improvement in water quality and water use has occurred, resulting in lower human health risks, reduced toxicity and decreased potential for eutrophication ("choking" by aquatic weeds).

301(h) WAIVER FROM SECONDARY TREATMENT PROGRAM

Under Section 301(h) of the Clean Water Act coastal communities may use primary wastewater treatment if EPA agrees to waive the general requirement for secondary treatment where it can be demonstrated that no major adverse environmental impacts will occur. EPA Region I has reviewed 39 applications with respect to the physical, chemical, biological, recreational, aesthetic and water quality impacts that the primary effluent could have on the marine environment. All but 12 applications were formally acted upon by the end of FY 85, including denial of the waiver application of the Massachusetts Water Resources Authority (MWRA) for ocean disposal of metropolitan Boston's sewage after primary treatment.

OCEAN DISPOSAL PROGRAM

The Marine Protection, Research and Sanctuary Act allows EPA, in conjunction with the U.S. Army Corps of Engineers, to designate dredge spoil, industrial waste and sludge disposal sites in the ocean. Due to the natural siltation of harbors and rivers, periodic dredging is necessary to maintain navigational channels. To meet these needs, EPA and the Corps are in the process of formal designation of interim dredge disposal sites off Maine and Massachusetts (north of Cape Cod), and through the development of an environmental impact statement (EIS), EPA and the Corps are also investigating a southeastern MA/RI dredge spoil disposal site.

NATIONAL ESTUARINE PROGRAM

In 1985, \$4 million of special appropriations supported by Senators Chafee (RI) and Weicker (CT) were earmarked for comprehensive water quality management of Long Island Sound, Narragansett Bay, Buzzards Bay and Puget Sound in the state of Washington. The goal of the program is to improve and protect the bays' resources through coordinated research and management programs. Region I is responsible for the Narragansett Bay, Long Island Sound and Buzzards Bay studies. Due to interest on both a state and federal level, an estuarine program for Massachusetts Bay may be forthcoming with the continued funding of the national program.

The following case study of Narragansett Bay gives more specifics on the formulation of a study.

NARRAGANSETT BAY STUDY

Approximately \$1 million has been

directed towards funding for Narragansett Bay to be jointly administered by EPA and the Rhode Island Department of Environmental Management (DEM).

Narragansett Bay serves a variety of commercial and recreational uses such as shellfishing, finfishing, lobstering, aquaculture, boating and water contact sports. It is also the host for numerous wading bird rookeries and a winter home for a family of harbor seals. It receives domestic and industrial wastes from Providence, Cranston and Warwick in the upper portion of the estuary. The Narragansett Bay workplan serves as a prototype for federal, state, local and private efforts toward comprehensive estuarine management and protection. The workplan outline is as follows:

- identify management issues and goals for Narragansett Bay,
- identify past, continuing and potential problems associated with water quality and other reasons why Bay uses are impaired,
- identify critical resources in need of protection,
- identify relevant, ongoing programs of federal, state, local and private organizations,
- determine what additional projects and studies are needed to resolve Bay-related management issues, and
- determine what public education and participation would be appropriate for the project.

Major goals in 1986 will be development of an environmental master plan, increased NPDES permit compliance monitoring for discharges to the Bay and the establishment of maximum discharge limits for toxic and nutrient discharges to the Bay.

WETLANDS PROTECTION

Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into the nation's waters through a permit program administered by EPA and the U.S. Army Corps of Engineers. Its purpose is to protect wetlands and water quality. When adverse impacts cannot be avoided, we seek full mitigation or offsetting of wetland losses.

Increased staff and funding improved EPA's wetland protection program in 1985 and allowed the region to pursue several initiatives. We reviewed over 500 proposed projects in 1985 ranging from small boat docks to major wetland fills for highways and commercial development. EPA recommended modification of permits in nearly half the cases to reduce environmental impacts and occasionally permits were denied. Permit conditions typically include reducing the amount of wetland filled or compensating for lost habitat through creation of new wetlands.

During the latter half of 1985, the region devised a comprehensive strategy to improve coordination among state and federal agencies involved in wetlands protection and increase the use of EPA's own authority in the 404 program. Under our 404(c) "veto" authority we intervened in the controversial Attleboro (MA) Mall case. We also participated in a joint program with Corps, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to evaluate compliance with permit conditions. In 1986 we plan to initiate a program to identify important wetland areas throughout New England in need of advanced designation and protection by EPA.

NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE

The National Environmental Policy Act (NEPA) requires that any major actions taken by federal agencies which significantly affect the environment be accompanied by an environmental impact statement (EIS). Less significant actions require preparation of an environmental assessment.

Major EISs worked on in the past year include: 1) The French River EIS (MA) - The issuance of the draft EIS in October 1985 recommended three actions to improve water quality, (a) advanced wastewater treatment for the towns of Webster and Dudley; (b) sediment control; and (c) low flow augmentation for Buffumville Lake. 2) Boston Harbor EIS - In December 1985 EPA issued the final EIS for the siting of wastewater facilities in the harbor. The EIS recommended Deer Island. As a final step in the process the region will develop an EIS on sludge disposal options for the MWRA.

PERMITTING AND COMPLIANCE

The Clean Water Act permit program limits the amounts and kinds of pollutants that can be discharged into navigable waters. In Region I, there are 2,650 such permits issued to both municipal and industrial sources, most of which were issued in the early and mid '70s for five year terms. In the states where EPA has primary permit issuance authority (Maine, Massachusetts and New Hampshire), the backlog of expired major permits was all but eliminated in October 1985. We are now working with the states having delegated National Pollutant Discharge Elimination System (NPDES) permitting authority (Connecticut, Rhode Island and Vermont) to complete reissuance of their major permits that have expired. It is anticipated that the states will substantially complete that effort in FY 86.

The new permits require reductions in toxic pollutant levels to assure protection of the receiving water. The region is using two powerful tools which more accurately assess the water quality impact of toxic discharges: (1) EPA's new criteria for toxic pollutants and (2) new toxicity testing (bioassay) procedures. The Ten Mile River case study is an illustration of the effective use of these tools in establishing permit limits. In addition, many of the municipal permits incorporate pretreatment requirements which will begin to regulate toxic discharges to municipal sewer systems.

TEN MILE RIVER

The Ten Mile River flows for 20 miles through industrialized areas of Massachusetts and eastern Rhode Island. Almost half of the river is impounded by dams, and a good portion of the remaining length is encased in man-made walls. The Massachusetts section of the Ten Mile River receives waste from 15 major industrial and two major municipal dischargers, many of which are associated with the jewelry and metal finishing industry.

Intensive surveys conducted in 1984 found high concentrations of metals in the water column and in the sediment including cadmium, lead, copper and silver. Copper has been found at levels far exceeding EPA's water quality criteria along much of the river's length. It is estimated that during low flow conditions about 90% of the entire stream consists of wastewater effluent.

The region is working with the Massachusetts Department of Environmental Quality Engineering (DEQE) to cleanup the Ten Mile River. The results of the intensive study and sampling program done during the summer of 1984 were reviewed and modeling resulted in effluent limitations for draft permits becoming available in June, 1985.

The Ten Mile River survey and analysis is the first in the region that combined traditional chemical monitoring with biomonitoring and effluent toxicity testing. Permit limits and enforcement strategies have been developed that are tied directly to the site-specific uses of the Ten Mile River. In a continuance of this combined biological and chemical data gathering and analysis, the NPDES permits will contain biological limits along with conventional chemical limits.

EPA sent draft permits to the dischargers in July, 1985 and held a meeting with them in early August. This was followed by a 30-day public comment period and public hearing. During the comment period, several people requested a summary report on the survey results and limitation basis along with additional time to comment. EPA and DEQE granted these

requests and planned to distribute a report in February, 1986. That report would be followed by a 60-day reopening of the public comment period.

After issuance of the permits with a stringent water quality-based limitation in 1986, EPA plans to develop administrative orders with compliance schedules and interim limitations for each discharger.

CLEAN WATER ACT PERMIT COMPLIANCE

Ninety percent of all major municipal facilities and industrial dischargers remained in compliance with permit limitations during the past year. The region completed 242 inspections of permitted facilities, issued 43 administrative orders and referred seven cases for judicial action. Inspections completed during FY 85 are as follows:

Chart 8

	Municipals	Industrials
compliance sampling	21	5
compliance evaluation	129	25
performance audit	36	17
pretreatment audit	9	0
	195	47

NATIONAL MUNICIPAL POLICY

The national municipal policy requires all municipalities to construct wastewater treatment plants by July 1, 1988 with or without the assistance of federal funds. In New England this policy affects 96 communities. All the New England states submitted municipal policies consistent with national policy.

The region and the New England states are working closely to ensure that all operating facilities are in compliance, all fundable facilities are on a schedule and all communities which need treatment facilities but will not be eligible for federal funding prepare the required compliance plans. At the end of 1985 77% of the communities were on enforceable schedules, and 8% were awaiting 301(h) waivers or waste load allocation decisions. The remaining 15% will be placed on judicial schedules during the next two years.

The region has issued 13 administrative orders to enforce community compliance. The states and the region are establishing a priority order for all communities not scheduled to receive federal funds. We will initiate enforcement actions where appropriate to require these communities to construct needed wastewater treatment facilities.

PRETREATMENT

Of the 81 New England communities required to limit industrial discharges of specific chemicals into municipal sewer systems, 67 have pretreatment programs which EPA has approved, and approval of the remaining 14 communities' pretreatment programs will remain a high priority.

In a new audit program to determine if communities are complying with approved pretreatment requirement, nine audits were performed by regional staff in FY 85. Federal enforcement actions were initiated against three industrial dischargers who did not comply with federal standards. The region will also review state and locally developed programs to ensure they are strictly enforced. One community has already been referred to the Department of Justice for neglecting to comply with pretreatment requirements.

CONSTRUCTION OF MUNICIPAL WASTEWATER TREAT- MENT PLANTS CONSTRUCTION GRANTS

Between October 1, 1984 and September 30, 1985 the region processed approximately 380 construction grants totaling \$212.8 million to help local governments build wastewater treatment plants and other facilities designed to improve water quality.

COMBINED SEWER OVERFLOWS (CSOs)

Congress appropriated \$60 million for the elimination of combined sewer overflows (CSO) to marine waters. In FY 84, \$12.3 million was obligated for projects in Connecticut, Maine, Massachusetts and New Hampshire. In FY 85 four projects totaling \$4.7 million were funded in Maine and Massachusetts. Together these projects will help eliminate marine CSOs in the Housatonic River estuary (CT), Boston Harbor, Great Bay/Piscataqua River estuary (ME and NH), St. George River estuary (ME) and the Maine coastal area near Old Orchard Beach.

The region and our states are also committed to initiatives which bring to minority and women owned business

enterprises a fair share of the EPA construction grant dollars. Minority and women business enterprise participation was 8.7%, up from the 7.8% level in FY 84.

OPERATION AND MANAGEMENT

Regional staff performed 107 compliance inspections of municipal wastewater treatment plants during FY 85. Operations management evaluations brought significant improvement in plant management and performance. The states, with EPA support, also provided extensive technical and management assistance to 57 smaller communities in the region to improve their operation and maintenance of sewage treatment plants.

The region presented awards to six plant managers, one from each state, for consistently outstanding plant management. This is the start of a new incentive plan.

The quantity of sludge produced has increased dramatically with expansion of older treatment plants and construction of new ones. During the past year, we met with each of the New England states to review their existing sludge programs, make recommendations for improvements, and participate in the development of the state sludge management and technical sludge regulations.

Chart 9
Construction Grants Obligations
October 1, 1984 to September 30, 1985
Region I Total: 212.8 Million

Millions of Dollars

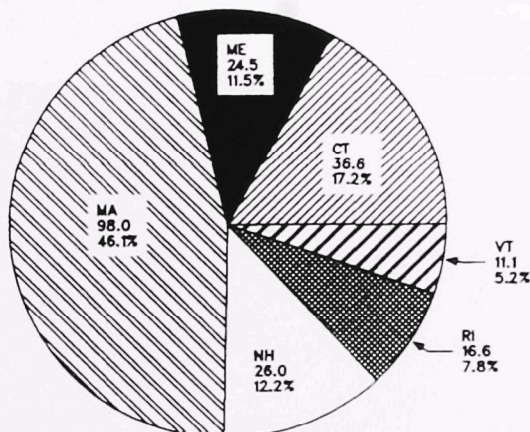


Chart 10
Percentage of Water Systems in Compliance
With The Maximum Contaminant Level for
Coliform Bacteria

	FY 84	FY 85
Connecticut	95	97
Massachusetts	88	92
Maine	94	94
New Hampshire	85	86
Rhode Island	96	97
Vermont	78	79
National Goal	93	93

**Percentage of Water Systems in Compliance
With The Maximum Contaminant Level for Turbidity**

	FY 84	FY 85
Connecticut	94	93
Massachusetts	97	94
Maine	97	98
New Hampshire	96	97
Rhode Island	100	100
Vermont	96	90
National Goal	97	97

DRINKING WATER QUALITY PUBLIC WATER SUPPLY SUPERVISION PROGRAM (PWSS)

The Safe Drinking Water Act was enacted in 1974 to protect public health by requiring public water supply systems to meet minimum national standards set by EPA. During the past year, Region I provided approximately \$1.8 million to the New England states to regulate public water supply systems.

An increase in compliance with maximum contaminant levels (MCL) for coliform bacteria is noted in the table below for five of the six states. The other state maintained identical compliance rates during the last two years.

In monitoring and reporting, New Hampshire stands out as having the greatest percentage improvement, going from only 41% coliform compliance in 1984 to 77% in 1985. Excepting Vermont, with a compliance rate of 69%, and New Hampshire all other states have greater than 90% compliance for monitoring and reporting of coliform.

Turbidity compliance levels continue to remain high, all states reporting well over 90% of their systems in compliance. The remaining systems will now have to begin planning whether to provide filtration of their source of supply or switch to other sources.

UNDERGROUND WATER SOURCE PROTECTION PROGRAM

During the past year, Region I provided a total of \$308,400 in grants to support state programs to regulate underground injection and promote groundwater protection activities. All New England states have assumed primary enforcement responsibility for the underground injection control (UIC) program.

In addition to the PWSS and UIC programs, Region I continued efforts to iden-

tify and protect critical groundwater aquifers under the sole source aquifer program. A sole source aquifer is the sole or principal drinking water source for an area which, if contaminated, would create a significant hazard to public health. During the past year, EPA continued to review proposed federally funded projects over the three sole source aquifers in Region I, Cape Cod and Nantucket Island, MA, and Block Island, RI. The region is also currently evaluating a petition to designate a fourth area in central Massachusetts as a sole source aquifer.

TECHNICAL ASSISTANCE

Some 170 people attended a two-day EPA-sponsored seminar on giardiasis, its occurrence, treatment and laboratory methods. The Water Supply Branch and the Air Management Division prepared a three-day seminar on radon in January, 1986.

Each year more than 100 requests for assistance are received from the general public, the most common regarding home treatment devices to remove contaminants such as arsenic, iron manganese, nitrates, organic solvents and radon. Water has been analyzed for antimony, lithium and tungsten in the course of special studies. We continually review health effects data and render opinions to the Superfund office, the states and the general public.

Reports on hazardous waste sites are reviewed from a water supply perspective. We review EISs for major federal projects and provide technical comments on their possible impacts on water supplies. Several highway projects under review may have significant impacts on sources of drinking water.

GROUNDWATER PROTECTION

Eighty percent of New England public water supplies and over 95% of our rural population rely upon groundwater, which is vulnerable to man-made natural sources of contamination. Sources of contamination include: underground storage tanks and piping systems, surface waste impoundments, pesticides and herbicide applications, and road salt storage and application. Long before groundwater received national attention, the region encouraged the New England states to use portions of state grants for groundwater planning and management foundations. These early "seed" efforts have made Region I a leader in the national groundwater protection effort. EPA maintains a groundwater steering committee composed of senior managers from all programs which relate to groundwater. Regional Administrator Michael Deland is one of seven members on the national groundwater task force. Paul Keough is the lead Deputy Regional Administrator in the country for groundwater program issues, including the budget. The Cape Cod aquifer management project will serve as prototype of a comprehensive approach to groundwater management. (See Case Study.)



THE CAPE COD AQUIFER MANAGEMENT PROJECT

Most Cape Cod residents rely solely on groundwater for domestic use. Long considered a pristine source in abundant supply, both public and private wells recently reflected the need for increased commitment to protect this precious resource — the wells were found to be contaminated. Thus, EPA's New England office and the Massachusetts Department of Environmental Quality Engineering (DEQE), together with the Cape Cod Planning and Economic Development Commission and the U.S. Geologic Survey, initiated a two-year study to examine the adequacy of existing groundwater protection programs and recommend improvements. Current groundwater protection programs at all levels of government are focused narrowly and administered separately. This study will be comprehensive, focusing on the resource itself, and examining threats to groundwater from a variety of activities.

Barnstable and Eastham have been chosen as the focus of this effort. Barnstable is a large town which has devoted much attention to groundwater protection and has developed expertise at the local level. Eastham is a small, rural town, totally dependent on private drinking water supplies. It relies on septic systems and has limited resources available for groundwater management.

The final project recommendations will be transferrable to the rest of the Cape and to the entire state. EPA and DEQE hope that this project will also serve as a national prototype for groundwater management.

This is a cooperative effort aimed at improving coordination in groundwater management between and among federal, state and local levels of government. A data management group will identify existing groundwater data bases, integrate them and make them more accessible. In addition, these data bases will provide background information for the other working groups. The group will also explore geographic information systems and computer graphics as a long-term management tool.

An aquifer assessment group will review the methods of determining the zone of contribution (ZOC) for groundwater supply wells and surface water resources. It will recommend appropriate methods for use in the study area. They will also assess the threat of contamination from various sources within these ZOCs and suggest acceptable land uses within these zones.

Finally, an institutions group will review existing programs, comparative costs and current bureaucratic structure, looking for gaps, inconsistencies and duplications to streamline program coordination and groundwater management.

OFFICE OF GROUND- WATER PROTECTION

The region's Office of Groundwater Protection disbursed more than \$650,000 in groundwater grants to the New England states in 1985. The financial assistance has catalyzed the development of comprehensive statewide groundwater activities or strengthened existing state permit programs and classification systems.

The region also funded several groundwater protection initiatives of the New England Interstate Water Pollution Control Commission (NEIWPCC):

- A standing committee on leaking underground storage tanks. Several meetings have been held with the states to exchange information, success stories, and problems encountered in developing and implementing underground storage tank regulations.
- An educational brochure and slide tape presentation on leaking underground storage tanks.

The EPA headquarters office has awarded NEIWPCC an additional grant of \$75,000 to provide all 50 states a channel for regional input into national standard setting and regulation development and for information dissemination to the states and the public.

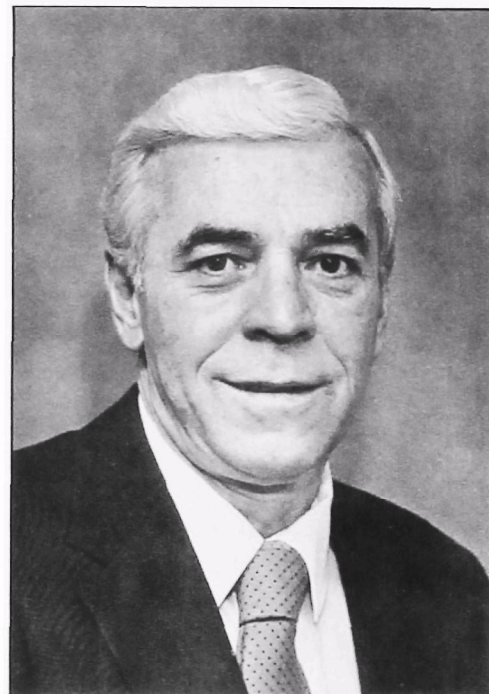
FUTURE DIRECTIONS

During 1985, the region has accomplished or made significant progress in many of the highest priority water issues in New England. In FY 86, the Water Management Division will focus attention and resources on:

- continuing emphasis on marine programs (e.g., Boston Harbor, estuaries, 301(h) waivers and ocean dumping of dredged material);
- implementing our new wetlands protection strategy;
- strengthening the Clean Water Act permit program and assuring that all point source discharges have appropriate enforceable permits;
- implementing the overall compliance strategy for the permit program (including the national municipal policy, pretreatment compliance, and compliance inspection policy);
- managing the federal funds available to maximize the benefits of the municipal construction grants program;
- developing and implementing a strong groundwater protection program;
- increasing compliance with the national drinking water standards;
- implementing a program of field sanitary surveys of public water supply systems to detect deficiencies in the system's facilities and/or operation that compromise its ability to continually produce safe drinking water, and
- continuing coordination with Superfund and other regional environmental programs.

ENVIRONMENTAL SERVICES DIVISION

EDWARD J. CONLEY, DIRECTOR



The Environmental Services Division (ESD) in Lexington, MA, provides laboratory and field support services to the air, water and waste program offices in Region I. These services include collection and analysis of samples and environmental data, oil spill response, and emergency cleanup of hazardous waste. The chemical and biological laboratory is one of the best equipped of its kind in the northeast, fitting legacy to former Division Director Edward V. Fitzpatrick. Fitz retired in May 1985, having served as lab director in Region I since EPA's inception.

He chose the site for the lab, supervised its design and construction and guided it through the crucial early years with characteristic wisdom and foresight.

ESD personnel work with state environmental agencies on the coordination of environmental monitoring networks which provide a continuous measurement of air and water quality. The lab's quality assurance services are available to the state laboratories to help them maintain accuracy and adequacy of sample analyses and to keep pace with changing technology and regulatory requirements.

The lab has served the Superfund teams in the Waste Management Division in two ways: with sampling and analysis of water and soils at Superfund sites, and with management of emergency cleanups where hazardous waste has presented an immediate threat to public health or the environment. Our emergency response team handled 18 cleanups at Superfund and other hazardous waste sites and helped the states and local authorities in 35 instances of chemical releases during the past year in New England. Preliminary assessments were conducted at 38 sites. There were 23 federally funded oil spill cleanups, and 50 oil spills at which ESD assisted the states.

Field personnel conducted 129 compliance inspections to determine whether dischargers had complied with wastewater permit limits or pretreatment guidelines for industrial waste discharged to municipal sewers. Most inspections involved complex laboratory analysis. Others consisted of thorough visual inspection and review of sampling and analysis conducted by municipal or industrial dischargers.

During the past year ESD staff provided on-the-job training and formal courses for state personnel in new technology and new regulations applicable to field work and laboratory analysis. The Air Section conducted 10 workshops on visible emissions and certified state and EPA inspectors to cite emission sources for violation of regulations governing total suspended particulates. Training was also given on field methods for detecting leaks in underground storage tanks, including a technique refined by laboratory personnel in-

SOIL GAS ANALYSIS - A NEW TOOL FOR GROUNDWATER PROTECTION

Growing concern over groundwater contamination with volatile organic chemicals presented the need for new technology to detect leaks in underground storage tanks and to track plumes of contamination from waste piles and spills. This contamination is principally caused by volatile organic chemicals. Measurement of organic vapor in holes augured in soil near the surface give useful information in organic contamination in the aquifer below. Soil gas is analyzed in the field by means of a state-of-the-art portable gas chromatograph capable of detecting 10-20 parts per billion of gasoline or organic solvent in an aquifer 10-30 feet below. This is done by testing at various depths and recording the readings at each

level. The field chemist can identify gasoline, diesel fuel, fuel oil, or specific solvents or mixtures present in the aquifer. A plume can be delineated by augering holes to show the direction of the plume's movement and the lateral concentration gradient. In several field studies, it has been possible to learn which of 3 buried tanks at a service station is leaking and the type of gasoline. This technique has been described at 7 technical meetings during the past year and more than 200 requests for information on field chromatography have been answered. We have conducted 6 training courses on the use of field chromatography for groundwater and hazardous waste site investigation, one for each New England state. Personnel from other EPA regions have attended several sessions. Widespread application of this technique, and its continuing refinement, are a high priority of the regional laboratory.

volving the use of a portable gas chromatograph to analyze soil samples.

ESD personnel also 1) established a toxics air monitoring site on a hill in Chelsea, MA, overlooking an oil farm and chemical industries; 2) processed, evaluated and published the 1984 Annual Report on Air Quality in New England; 3) worked with the states and major industries in conducting and observing emission tests for particulates, sulfur oxides and volatile organic chemicals; 4) conducted field performance audits on all national air monitoring sites, completing a full audit of each state's air monitoring program; and 5) expanded ESD's capabilities for toxic air monitoring, including significant field studies at Raymark and American Cyanamid plants in Connecticut, ambient sampling for volatile organics at Deer Island wastewater treatment plant in Boston Harbor, and at many Superfund sites in New England.

In October and November 1984, Region I personnel took part in Phase I of a national lake survey. A total of 519 lakes in New England were sampled from helicopters, and data have provided a statistical base for defining those lakes which are potentially sensitive to acid deposition. These data were used to group lakes having similar chemical characteristics and to select representative lakes for more intensive sampling. During FY 86, EPA contractors will follow up with more intensive chemical and biological sampling of the representative lakes.

The division took charge of launching the agency's chemical emergency preparedness program in New England late in the year. The program is designed to help states and local governments develop emergency response and contingency plans in case hazardous chemicals are accidentally released. The division distributed an acute hazards list of 402 chemicals in general use in industry, chemical profiles of each, and guidance on drawing up contingency plans. The division continues to provide technical assistance.

The biology section responded to an epidemic of giardiasis, an intestinal parasitic disease, in Pittsfield, MA. Working with personnel from the Lawrence, MA experiment station, our people soon recovered the causative organism and pinpointed the possible source of contamination. The biology lab is one of the very few on the east coast which is capable of isolating and analyzing for giardia.

The giardia episode brought the division into close contact with state and local public health departments, an accelerating trend, as the interest in environmental protection shifts noticeably toward health effects of environmental degradation, especially the impact of chemical contamination of air, water and soil.

A PRELIMINARY CHECKLIST OF THE AQUATIC MACRO-INVERTEBRATES OF THE NEW ENGLAND REGION

New England's streams and lakes have a rich and diverse macroinvertebrate fauna and records of these aquatic populations are being documented in the course of state biological water quality monitoring. A checklist of the aquatic macroinvertebrates in New England and New York State was begun in 1982, using lists of animals collected as part of the 7 states' water quality monitoring, and supplemented with lists contributed by selected taxonomists and private collectors. This is a working list, not based on extensive searches of literature and historical records. This list will be useful to the state and federal aquatic biologists in determining the impact of pollution on streams and water bodies as well as indicating recovery from pollution after toxic discharges have been eliminated.

The presence of certain species, especially stoneflies, mayflies and caddisflies, and most molluscs indicates good water quality. Poor water quality is indicated by the presence of aquatic earthworms and midge flies. Molluscs, or freshwater shellfish, are generally sensitive to acidic conditions. Macroinvertebrate taxonomy is one of the most useful biological tools for the assessment of water quality.

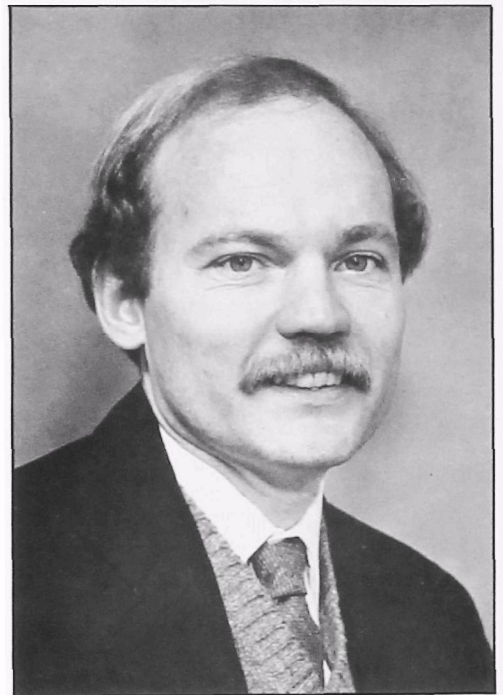
The list will be updated periodically, prompting a continuing exchange of specimens and distribution records among the states. So far, it contains more than 1,500 taxa covering the Phyla Porifera through Mollusca.

Publication of the list is expected early in 1986. We plan to establish a central reference collection at the ESD laboratory for use in specimen verification and in conducting workshops on macroinvertebrate taxonomy.



OFFICE OF REGIONAL COUNSEL

PATRICK A. PARENTEAU, REGIONAL COUNSEL



This office provides the legal muscle for the region's enforcement program, preparing lawsuits, negotiating settlements, collecting penalties and helping to prosecute criminal violations of the nation's environmental laws. It also defends the region against a variety of legal challenges, especially suits designed to block enforcement efforts or to stall cleanup operations. Finally, the office serves as a troubleshooter, trying to clear legal obstacles from the path of EPA's complex regulatory mission, and to keep the construction grants program from bogging down with bid protests and grant appeals.

Here are some highlights from last year:

CLEANING UP HAZARDOUS WASTE SITES— A COOPERATIVE EFFORT WITH THE WASTE MANAGEMENT DIVISION

The Ottati & Goss case, the nation's longest running environmental lawsuit, ended last summer after 113 days of trial. When the dust had cleared, the federal government had won the most comprehensive decision to date establishing strict liability against hazardous waste generators as well as the owners and operators of hazardous waste sites which contaminated ground and surface water near Kingston, NH. The case demonstrates that EPA is not only committed to hazardous waste cleanup but is willing and able to litigate against multiple defendants when necessary. EPA has spent about \$1.7 million on removal of some 4,400 drums

of waste from the 28-acre site occupied by Ottati & Goss and Kingston Steel Drum. The site was used for waste disposal and drum cleaning in the 1960s and 1970s. The removal took place between the autumn of 1981 and the summer of 1982. EPA has spent an additional \$850,000 on groundwater and related studies and in the preparation of a preliminary engineering plan for permanent cleanup.

Another New Hampshire case, only a few miles down the road from the Ottati & Goss site, provides an even better illustration of how EPA would like to deal with Superfund cleanups. That case involves a site near Epping, NH operated by Keefe Environmental Services as a hazardous waste treatment, disposal and storage facility between May 1978 and January 1981. The seven acre site consisted of a lined waste lagoon with a capacity for 600,000 gallons of liquid waste, four 5,000 gallon above-ground storage tanks, seven dumpsters containing sludges and soils, and as many as 6,000 fifty-five gallon drums. EPA, the State of New Hampshire and the Town of Epping spent approximately \$3 million to cleanup and secure the site. EPA pumped the lagoon to prevent overflows during rain and snowmelt, stabilized deteriorating surface conditions, staged, grouped and overpacked deteriorating drums and removed ultra-hazardous materials. New Hampshire removed more than 4,000 drums under a cooperative agreement with EPA. Nearly two years of painstaking negotiations finally paid off with the signing of a comprehensive cleanup agreement by 117 responsible parties last fall. The settlement, valued at close to \$6 million, has been hailed on all sides as a model agreement.

Its key feature is a risk premium payment designed to cover unexpected cleanup costs while allowing responsible parties to "cash out" their liability. This new approach is expected to speed settlement of Superfund cases in New England and throughout the country, resulting in more cleanups and less time spent in costly litigation.

CLEANING UP BOSTON HARBOR

Forty-three cities and towns discharge sewage into Boston Harbor through two obsolete primary treatment plants formerly operated by the Metropolitan District Commission (MDC) but now under the jurisdiction of the Massachusetts Water Resources Authority (MWRA). More than 100 combined sewer overflows (CSO) also discharge to the harbor. The combined effect of these discharges creates the most serious water pollution problem in New England by regularly causing beach closings, and diseases in fish and other organisms and threatening public health.

To date, \$210 million in EPA grants have been made to projects related to Boston Harbor, mainly to repair and rehabilitate portions of Boston and member community sewer systems and to correct some CSO and chronic treatment plant problems. In addition, some \$40 million in federal grants are scheduled during FY 86 for immediate improvements to the Nut Island and Deer Island treatment plants and to correct additional CSO and sewer system problems.

As part of the region's multi-pronged effort to restore water quality in Boston Harbor, the MDC's application for a waiver of secondary treatment was de-

nied, requiring construction and operation of secondary treatment facilities. Environmental impact studies have been completed for facilities siting. The studies narrowed the choice for the treatment works from 22 sites to a single preferred site, Deer Island. Public hearings of the final environmental impact statement were held in January 1986 with the final record of decision issued in February.

A lawsuit was filed in January 1985 to obtain a firm cleanup schedule under the direction of the Federal District Court in Massachusetts which has the broad authority needed to oversee the multitude of parties and issues involved in solving this problem. Despite opposition by the Commonwealth of Massachusetts and by the MWRA, Federal Judge David Mazzone entered judgment last summer against both the authority and the commonwealth finding them liable for numerous violations of the Clean Water Act. Following negotiations among the parties, which also included the Conservation Law Foundation of New England, the City of Quincy and the Town of Winthrop, Judge Mazzone issued the first remedial order in late December, containing an interim, three year schedule of activities, including immediate improvements to the existing primary treatment plant on Deer Island. With this interim schedule the court-administered cleanup of Boston Harbor has officially begun. More orders will follow, but it is hoped that the parties will continue negotiating their differences to arrive at mutually agreed upon schedules and timetables for the actual construction of necessary facilities for secondary treatment, sludge disposal and combined sewer overflows — a massive construction project estimated to cost more than \$2 billion and take more than 10 years to complete.

GETTING TOUGH ON ASBESTOS VIOLATIONS

Asbestos, a known human carcinogen, presents one of the most pervasive health risks in New England. Having been used for so many years as insulation in homes, businesses and factories, it is literally all around us. Although usually safely concealed behind walls, ceiling tiles and other structures, it can become dangerous when released as dust into the air.

Region I has been a leader in the vigorous enforcement of two different programs designed to regulate asbestos. One is the asbestos-in-schools program, in which hundreds of enforcement actions have been taken under the Toxic Substances Control Act, and thousands of dollars have been spent on safe removal of asbestos from schools around New England. Equally important, the highly visible enforcement effort has helped make parents, teachers, administrators and school

boards much more aware of the asbestos problem, prompting corrective actions beyond those stimulated by the enforcement actions themselves.

The other major asbestos program, under the hazardous emissions provision of the Clean Air act, regulates the demolition or renovation of buildings containing asbestos. The usual approach is to assess a fairly stiff penalty for violations and to order future compliance. However, given the gravity of the threat posed by improper handling and disposal of large amounts of asbestos frequently exposed during building demolitions and renovations, and the slow response of the regulated community — both contractors and

building owners — to following prescribed procedures, Region I has decided to raise the ante for serious violations by bringing criminal prosecutions against deliberate or repeat offenders. In December 1985, a Federal District Judge in Connecticut found two men guilty of knowing violations of federal regulations and handed down stiff sentences that included 30 days in jail for one person, a one-year suspended sentence for the other, and a \$25,000 fine for each. In addition, each was placed on five years probation and was ordered to perform 1,000 hours of community service. Sentences like these will serve as a powerful deterrent to other violations of the asbestos rules.

This past year Region I initiated its first action under section 404(c) of the Clean Water Act, which provides EPA with the authority to prohibit or restrict the filling of wetlands (and other waters of the U.S.) when there would be unacceptable adverse effects from a proposed development on certain environmental resource values. This section of the Act has been used infrequently in the past, and only four 404(c) actions have been completed nationwide. The case has captured widespread attention in the local and national media.

Pyramid Companies of New York proposed to fill 30 acres of primarily forested wetlands in order to build a shopping mall in an area known as Sweedens Swamp in Attleboro, MA. If permitted, this would be the largest loss of wetlands in Massachusetts in at least 5 years. Pyramid claims that the destruction of wetlands is justified because it proposes a wetland mitigation plan which would "improve" the remaining wetlands onsite and create new wetlands offsite.

Region I became involved with the mall proposal since it requires a permit under section 404 of the Clean Water Act, which regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. The 404 program is jointly administered by the Corps of Engineers and EPA. EPA has authority under §404(c) (commonly known as the "veto" provision) to override a Corps decision to issue a permit whenever EPA determines that there would be unacceptable impacts to municipal water supplies, fisheries, shellfish, recreation and/or wildlife.

Since October 1984, Region I has objected to issuance of the Corps permit because of the impacts on the wetland and a belief that at least one less environmentally damaging site exists where a mall could be built. The local Corps Division had decided to deny the 404 permit, but the Corps headquarters office interceded in the case and directed the New England Division to issue the permit to Pyramid.

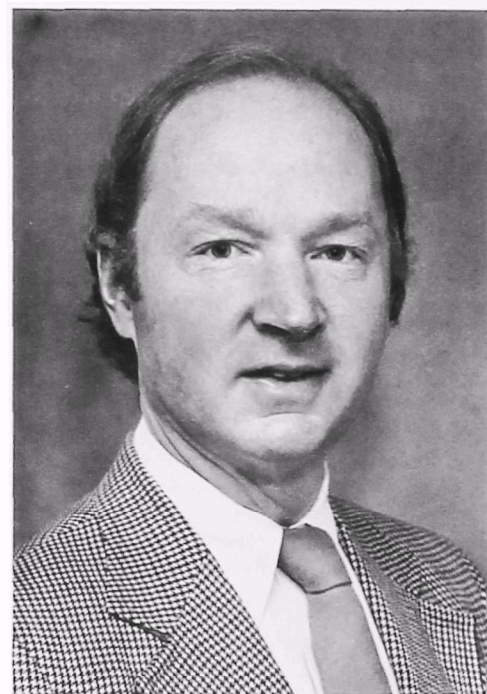
The Corps' Washington position involved a legal and policy interpretation of EPA's regulations which, if applied in other cases as well, could substantially weaken the 404 program.

In late July, Region I initiated the formal 404(c) administrative process. Our August 21, 1985 public notice states that Pyramid's proposal may result in unacceptable adverse impacts on the wetland, and sought public comment on numerous issues. Pyramid filed suit against EPA seeking to stop the 404(c) process. The federal district court for the District of Columbia dismissed Pyramid's action, ruling that the court lacked jurisdiction over the case since EPA has yet to take final agency action. The court also held that EPA retains broad discretion to initiate section 404(c) actions, and that EPA's action in this case was within discretion. This was the first written decision construing section 404(c) of the Act. Pyramid has appealed the decision.

The next step in the 404(c) process is for Region I to complete its evaluation of the record (including approximately 1,200 comments) and make a recommendation to EPA headquarters. The regional administrator has three options: withdraw EPA's objections and allow the project to proceed subject to the requirements of the Corps permit; restrict use of the site or place conditions on the project which must be satisfied before the mall could be built; or prohibit filling of Sweedens Swamp thereby vetoing the Corps permit and preventing construction of the mall. This decision will depend primarily upon how the region resolves two key questions: 1) must an alternate site(s) which would fulfill the basic project purpose be available to the permit applicant to be considered feasible, and 2) may mitigation, if initiated successfully in advance of a project, substitute for avoiding the impacts in the first place by use of an alternate site? The final EPA decision will be made by Joy Manson, the Assistant Administrator for External Affairs.

PLANNING AND MANAGEMENT DIVISION

HARLEY F. LAING, DIRECTOR



The Planning and Management Division provides a variety of services to support regional program activities, including space, equipment, support for our employees, financial management and budgeting, and information processing and communications.

Activities with greater external impact include the administration of federal priority setting and program coordination. The activities highlighted below are examples of the work of the Division.

- The Division serves as the production manager for Region I's Environmental Management Report (EMR), the national "state of the environment" reporting and planning effort undertaken every year in each of the 10 EPA regions.

State and environmental group representatives work with the region to identify New England's most important environmental issues. The report outlines action plans at the national, regional and

state levels to solve these critical environmental problems.

- The region's work planning and accountability systems track program and enforcement activities against commitments developed in conjunction with EPA headquarters at the beginning of the fiscal year.

The region is now in the process of automating the planning, management, tracking and accountability systems. This effort will aid program managers by continuous reporting of progress in regional program, enforcement, special initiative and grant-related activities.

STAFF INCREASES

The Region I organization continued to grow during FY 85. The number of permanent employees increased by nearly 15%, from 401 to 459. The greatest increases were in waste management with all programs benefitting from the addition of technical staff, attorneys and clerical, administrative and support personnel. Consistent with the Agency's equal employment policy, half of the new professional and administrative employees are women, and nearly 20% of the professional and administrative new hires are minority group members.

HUMAN RESOURCES INITIATIVES

In keeping with EPA's increasingly strong commitment to improving its effectiveness and productivity through development of its employees, Region I has undertaken a number of human resource initiatives.



EPA REGION I BUDGET - FISCAL YEAR 1985

The budget we managed for FY 85 was comprised of 459 staff years and \$20 million to support Agency operations. The budget also included \$77 million for grants for wastewater treatment plant construction and \$26 million for grants to support state environmental program operations.

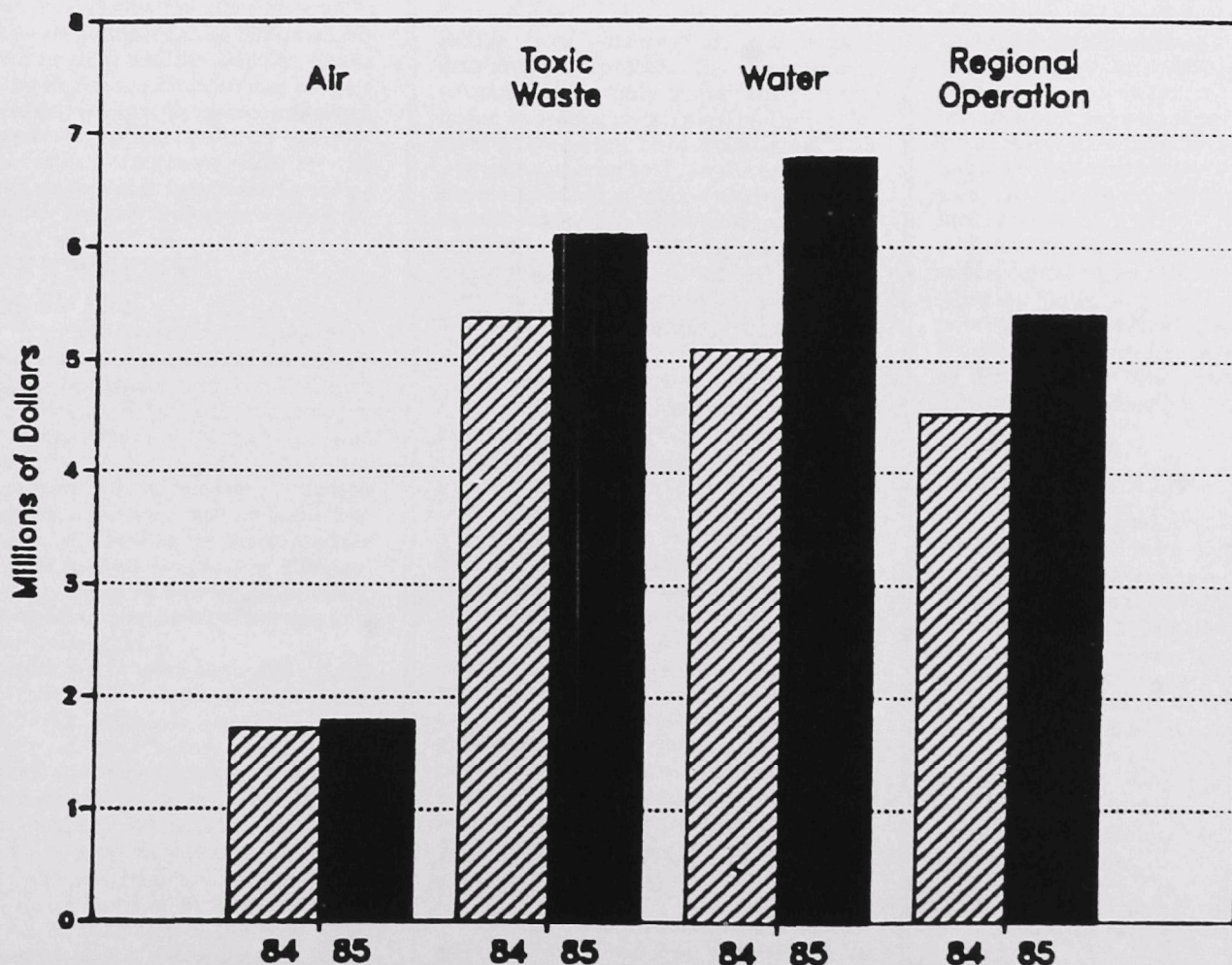
The region's resources increased significantly from FY 84 to FY 85.

- In addition to Superfund, other EPA program funding for protection of the environment from hazardous waste and toxic pollutants (pesticides, radiation and toxic substances) increased operating dollars by \$451,600 or 20% over FY 84.
- Financial operating funds increased by \$3.3 million or 20% over FY 84.
- Superfund's financial operating resources increased by \$1,228,000 or 42%.

Stability of funding levels is the highlight of Region I's financial assistance to states. These grants support air, water, construction grants management, water quality, public water supply, underground injection control, hazardous waste and pesticides enforcement and certification programs. For FY 85, the New England states received EPA funds as follows:

Connecticut	\$5,813,000
Maine	\$3,019,000
Massachusetts	\$9,655,000
New Hampshire	\$2,879,000
Rhode Island	\$2,722,000
Vermont	\$3,031,000
Total	\$26,119,000

Chart 11
Regional Programs Financial Resources



We began a supervisory training program for all managers and supervisors. Recently, this program was extended to our senior professionals through a year long human relations training program designed to help them improve a variety of job-related skills.

We established a human resources advisory committee representing all segments of our workforce. Six priority areas were selected for further development by the committee - (1) upward mobility, (2) increasing the number of women and minority managers and supervisors, (3) secretarial/clerical recruitment and retention, (4) rotational assignments, (5) senior level non-supervisory positions, and (6) communications. Workgroups have been formed to make recommendations in each of these areas in the near future. We expect this committee to develop and communicate a wide variety of human resource initiatives.

• In FY 85 the region awarded 54 environmental program grants along with numerous special purpose assistance grants worth \$26 million to state environmental and public health agencies.

The Division provided administrative and financial technical assistance to EPA program managers and to state recipients of EPA grant assistance.

In addition, cooperative agreement awards under the Superfund program were distributed to the New England

states to help them with hazardous waste cleanup. The Division worked with program officials to explain the accounting requirements mandated by Congress and to develop administrative procedures necessary to assure proper, effective and efficient state financial management systems. Other new grant-related initiatives in the hazardous waste and toxic materials area were the small quantity generators and the underground storage tank programs and grants under the Asbestos School Hazards Abatement Act.

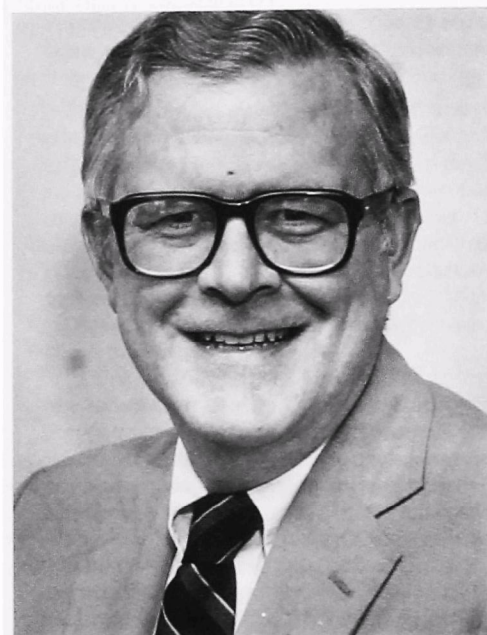
The Division planned and implemented EPA's new performance-based grant policy, a national initiative to improve the productivity of EPA funded state programs effort through a process of negotiated commitments and close monitoring of performance.

- The Division investigated groundwater manuals and automated information sources and researched automated data processing tools and system support for integrating or evaluation of groundwater information.

Support was provided to the Cape Cod (MA) aquifer management project by helping to identify groundwater data needs and select information systems. Information systems that could be useful in addressing technical and management issues in the Barnstable-Eastham (MA) study area were identified. An automated information resource assessment system will permit all the participants in the Cape Cod project to use this compendium of information.

OFFICE OF GOVERNMENT RELATIONS & ENVIRONMENTAL REVIEW

STEPHEN F. ELLS, DIRECTOR



This small office has four big jobs. It enlists the support of senior public officials to help EPA carry out its mission. It reviews the major actions and permits issued by other federal agencies to minimize environmental damage. It ensures that federal agencies comply with all environmental laws. And lastly, the office director is senior policy advisor to the Regional Administrator (RA) and his Deputy; serves as Acting Regional Administrator in their absence; and is the RA's representative in the preparation of the landmark environmental impact statement (EIS) for the siting of wastewater treatment facilities for Boston Harbor. Below are some examples of what we do.

GOVERNMENT RELATIONS

New England's congressional delegation has traditionally played a leading role in shaping environmental statutes. Members actively support EPA's mission and our office is responsible for sustaining that backup.

We respond to inquiries from members of Congress, governors, mayors and other senior officials. Assistance is provided on the impact in New England of EPA actions and policies as well as on problem situations affecting a particular community or an individual.

We responded to more than 220 official letters this year; telephone calls from government officials presented a multitude of new issues every week. Hazardous waste management and water pollution control issues are areas of most frequent concern. Recognizing the strong bipartisan support for environmental protection programs, Regional Administrator Mike Deland has met at least once this year with 23 members of the New England congressional delegation or their senior staff and with all of the governors.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REVIEWS

We review and comment on all actions proposed by the federal government in New England that could have a significant impact on the environment. The objective is to insure that the federal establishment protects the environment as much as possible in its construction, grant awarding, permitting and other activities. We do this by consulting with the proposing agency early in the process, by reviewing other agencies' environmental impact statement (EIS) assessments, by requesting that an EIS be prepared for major projects that have not had adequate environmental review and by encouraging selection of environmentally preferable alternative.

This year we were involved in projects throughout New England, such as Boston's third harbor tunnel/central artery; traffic impacts on drinking water in Providence, RI; proposed dredging of Lake Champlain, VT; and the "Big A" hydroelectric dam on the Penobscot River, ME. Of the 14 draft and final impact statements we reviewed, EPA expressed environmental objections to two and raised environmental concerns about another six. In many cases the projects were either modified as the result of our concerns or additional information was provided to our satisfaction. In addition, the office reviewed and commented on 80 environmental assessments and scoping requests and 265 hydroelectric projects.

FEDERAL FACILITY COMPLIANCE

The Executive Branch of the federal government owns 1,344 installations in New England on approximately 1.3

million acres of land. It owns hundreds of motor vehicles, major ships and large aircraft. It operates hospitals, laboratories, manufacturing plants and technical facilities. With operations on such a large scale, it should come as no surprise that many of the facilities have been sources of pollution in the past and remain potential sources of pollution in the future. This year, through the federal facility compliance coordinator EPA provided technical advice and timely compliance with state and federal environmental laws. We now conduct reviews and inspections to ensure compliance by federal facilities.

We assist federal agencies and the Office of Management and Budget (OMB) in developing budgetary plans for controlling pollution from federal facilities. During FY 85, over \$46 million has been budgeted for pollution abatement at federal facilities in this region.

STATE/EPA AGREEMENTS

This office developed management agreements that were signed this year with state environmental agencies in Region I. These multi-purpose documents focus top management attention of the state and EPA on the evaluation and accomplishment of major environmental and programmatic issues. The agreements serve as a vehicle to identify new or emerging items of interest, as a composite of the related environmental management grants awarded to the states (\$25 million annually) and as a mechanism to develop special strategies.

OFFICE OF PUBLIC AFFAIRS

BROOKE CHAMBERLAIN-COOK, DIRECTOR



The Office of Public Affairs (OPA) saw a sharp rise in news media coverage, an increase in outreach efforts to new publics and expansion of the Superfund community relations program in 1985. A sampling of the stories managed through OPA include the first challenge of a U.S. Army Corps of Engineers wetlands permit (the Attleboro Mall case), the first comprehensive court ruling on industry's liability for Superfund cleanups (the Ottati & Goss case), and a unique \$5.7 million "cash-out" settlement in the Keefe Environmental Services case in Epping, NH. This case set a new national pattern for Superfund settlements. And finally, the nation's first criminal conviction under the current asbestos removal regulations – the Waterbury (CT) House Wrecking case.

With a greater number of Superfund sites, each with complex cleanup issues, the Office added two professionals to the Superfund community relations staff of one. In addition, an increase in Region I news led to the addition of one more press officer for a total of three.

To expand the Region's outreach to business and industry, the Office developed a mailing list of business firms broken down into eight categories, according to their fields of interest. This will help us keep them apprised of new or changing regulations and other actions which might affect them.

The Boston Harbor cleanup case dominated this year's news, starting with the creation of the Massachusetts Water Resources Authority to manage water supply and sewerage for metropolitan Boston and continuing through a favorable ruling on EPA's suit to compel Harbor clean-

up, the Agency's rejection of the state's application for waiving secondary treatment requirements and the regional office's combined effort with the state to select Deer Island in Winthrop as the site for a new secondary wastewater treatment plant, necessary for the successful cleanup of the Harbor.

A page one story from July, 1985 to the end of the year was Michael Deland's challenge of the U.S. Army Corps of Engineers' permit to allow Pyramid Corporation of Syracuse, NY to fill Sweeden's Swamp in Attleboro, MA for the purpose of constructing a shopping mall. Environmental groups strongly supported the challenge, while Pyramid organized a major lobbying and public relations campaign in favor of the project.

The year brought a big victory for the region's legal and technical personnel when a federal judge in Concord, NH handed down the nation's first comprehensive decision confirming the liability of waste generators, transporters and facility owners and operators for the cost of Superfund cleanups. The decision came after 113 trial days, the nation's longest environmental trial, in EPA's suit against 15 responsible parties at the Ottati & Goss Superfund site in Kingston, NH. Another landmark Superfund case that drew attention from news media across the country was a \$5.7 million cash-out settlement of past and future Superfund costs at the Keefe Environmental Services site in Epping, NH. Also a first for the news media and legal profession was the criminal conviction of a building owner and his wrecking contractor in Waterbury, CT, for violation of regulations on the safe

removal of asbestos. The owner was given a 30-day jail sentence and other heavy penalties were imposed in the first test of EPA's revised asbestos regulations.

Most press releases go to the daily, weekly and electronic broadcast media. Last year we added mailings to trade papers and trade associations as well. Such releases alerted these editors to the agency's revised asbestos removal regulations, the imminent closing of certain hazardous waste land disposal facilities and called attention to new regulations affecting small quantity generators of hazardous waste.

In 1985, we began transmitting news via a public relations newswire which allowed OPA to electronically send news to scores of papers and television stations in the region and beyond. The service has proved especially useful for short-notice releases to inform the media immediately of breaking news stories.

Region I made substantial contributions to *EPA Journal* with full length, illustrated articles on hazardous waste tracking in New England and on strict, new permits to clean up the effluent-dominated Ten Mile River in southeastern Massachusetts. In addition, Michael Deland authored an historical retrospective piece for EPA's 15th Anniversary issue in that magazine.

OPA compiled a new business list, broken down according to field of interest: wastewater permits, industrial pretreatment, air emissions permits, PCB management, asbestos management, hazardous waste management, auto emission controls, and radiation. Most businesses asked to be kept informed in at least four

categories. The list will prove useful in 1986 and beyond with new statues and regulations.

Traditional outreach to elementary schools had another banner year. Again, more than 10,000 entries were submitted for the Elementary Education Ecology Poem and Poster Program. Paul Keough, Deputy Regional Administrator and the program's originator, and Michael Deland awarded prizes at ceremonies in all New England states. EPA staff offices continue to be adorned with imaginative, often heart-rending, posters and poems in defense of clean air, clean water and protected wildlife. And, at the annual Citizen's Briefing in December, a dozen citizens received awards for their contribution to environmental protection.

Our periodical "New England Environment" grew in both circulation and comprehensive coverage. Requests to be included on the mailing list came in from all corners of the region. Circulation has now reached 1,000 and a new compressed format is under consideration for 1986.

OPA continued to field about 1,500 letters from citizens, at least 10,000

telephone calls (about 70 per day), unheralded visits by inquiring citizens, and 503 formal requests for information invoking the Freedom of Information Act (up from 350 in 1984). The regional administrator and his senior staff were in frequent contact with environmental and business groups. At least one meeting with each occurred every quarter.

The Superfund community relations staff supports the Superfund office in planning and implementing community relations outreach and public information efforts. The professionals that were added to the one-person staff during 1985 worked on the growing number of sites moving toward final cleanup. The trend was toward informal briefings, site tours and individual interviews with continued emphasis on public meetings and hearings. For example, in Gray, ME, the McKin site manager met informally every few weeks with the town council over cleanup techniques for that site. Key citizens also attended. At the residents' request, EPA installed a telephone hotline which daily reported the site's status through recorded questions and com-

ments. Even early drafts of the cleanup plan were reviewed by local officials and key citizens.

The community relations staff stressed education of local officials and residents, allowing them a more active role in decisions. A blizzard of fact sheets presented complex technical and legal issues in plain English. At the Silresim Superfund site in Lowell, MA responsible parties agreed to do a remedial study, with citizens participating in monthly oversight meetings.

"We're Number One," the Office's internal newsletter, gained further employee acceptance as a news and information outlet. In addition, the Office sponsored an internal training session on community relations at Superfund enforcement sites — those where EPA must juggle the right to know with the right to privacy during negotiations with potentially responsible parties. In August, the OPA hosted the national conference of headquarters and regional public affairs directors. Finally, the Office organized the annual meeting at which Michael Deland conferred merit awards on outstanding employees.



CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

STANLEY J. PAC, COMMISSIONER



In 1985, Connecticut continued its historical role as a national leader in the comprehensive protection of the environment and natural resources.

The state's air pollution control program, created in response to the federal Clean Air Act, has far exceeded the federal requirements in the stringency of its policy. Its commitment to reducing air pollution continues to serve as a model for other states. Connecticut has established stricter standards, such as the lowest sulfur-in-fuel requirement in the nation, has applied stringent permit application review criteria such as best available control technology to require acid gas scrubbers on all resource recovery facilities, and has developed innovative air pollution control programs such as the program to control hazardous and toxic air pollutants. The state's air monitoring network is the largest in New England and is recognized as one of the best in the nation.

New programs in 1985 included vapor loss testing of gasoline tank trucks to attain ozone standards, the toxic air program which lists over 850 toxic compounds and proposes to control such pollutants from over 10,000 sources, and the permitting of four resources recovery plants, more than any other state utilizing resource recovery as a solution to solid waste management problems. Connecticut's automobile emissions inspection and maintenance program has decreased tailpipe levels of hydrocarbons and carbon monoxide by thousands of tons since its inception in 1983.

The hazardous materials management unit responded to 1,997 reported spills for the calendar year ending December 1985

One hundred twenty six inspections of major facilities, and 38 inspections of minor facilities were conducted. A total of 147 new enforcement actions were initiated in 1985, 36 referrals to the attorney general for civil actions were made and 15 referrals to the state's attorney for criminal actions resulted in forfeitures totalling \$145,000. Approximately \$2 million was spent in 1985 for removal of contaminated soils at three separate sites. During FY 85, an extensive state-wide inventory to locate historical hazardous waste disposal sites was completed which involved over

3,500 inspections. During the 1985 legislative session, \$250,000 was allocated to the DEP to conduct a program for the collection of household hazardous wastes.

The state's local assistance and program coordination unit was one of four states in the nation to participate in the development of a national program to regulate the nonresidential underground storage of oil and petroleum liquids. This unit also began the first training and certification classes for 104 wastewater treatment plant operators in the spring of 1985.

Clean water goals continue to be met



with strong, successful programs. Ninety three percent of the state's surface waters meet their designated use classification and the majority of groundwater is suitable for drinking without treatment. A major revision to the state's water quality standards was undertaken in 1985. The proposed standards include concerns which address toxic substances, biological parameters, flow regulations, provisions for the expansion of seasonal disinfection zones, bioconcentrations, nutrient effluent limitations and eutrophication on major rivers.

In June 1985, the Department obtained a new mobile toxicity laboratory which is being used to test aquatic toxicity at various river sites throughout the state. Also in June, a toxicity conference with over 260 participants examined recent aquatic toxicological studies conducted by DEP and EPA. The department began in 1985 its participation with EPA in a study of Long Island Sound's water quality which will help protect the Sound against further environmental stresses and degradation.

A new potable water program enacted in 1985 provided \$7 million for potable water in cases of well contamination. Victims of well contamination are provided with bottled water immediately on identification by the state or by responsible parties. Four hundred families are currently being provided with bottled water by DEP, and projects for long term water supply extensions or filter systems are underway in towns where no responsible parties exist.

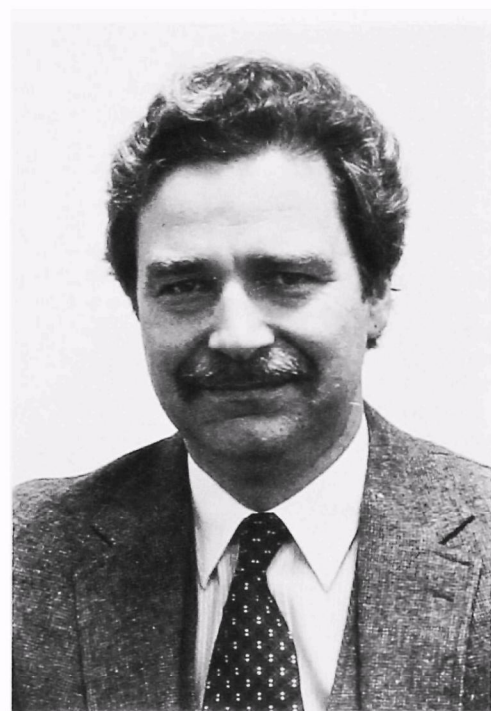
Since 1967, over \$1 billion in state and federal grants have assisted municipalities in meeting their water pollution control needs through the construction of treatment facilities. A program initiated in 1985 identified an additional \$1.1 billion in needs and proposed a revolving loan program with \$756 million in state monies over the next 20 years. Governor O'Neill's innovative proposal is designed to ensure the successful implementation of our clean water goals into the next century.

In the area of water resources, 400 of the state's 2,300 registered dams were inspected in the last fiscal year. \$2 million in low-interest loans have been authorized for dam repair and high hazard dams have been identified as having priority for the loans. During FY 85, the DEP was involved in 30 flood control projects, 26 dam repair projects and three beach and shore erosion projects. Two of the flood control projects were completed, five are under design, and three are under preliminary investigations. Seven dam repair projects were completed, seven are under design, and 12 are under preliminary investigations. Two of the three beach and shore erosion projects were completed.

As a review of 1985 suggests, many of our environmental goals have been and continue to be met. But it is inherent in the nature of protection and preservation that new needs and new goals will arise. With the successes and accomplishments of 1985 marked and noted, our vital signs are strong indeed. We look forward to our continuing challenge.

MAINE DIVISION OF ENVIRONMENTAL PROTECTION

HENRY B. WARREN, COMMISSIONER



Early in 1985, Maine identified the protection of its groundwater resources as its top environmental goal for the year. Before 1985 ended Maine had planned, financed and launched a strategy to accomplish that goal without neglecting its other environmental responsibilities.

Maine's 112th legislature responded to the Department of Environmental Protection's call for action by enacting three key bills.

- An underground storage tank law gave the DEP broad authority over both old and new installations of underground petroleum storage facilities – a prime source of groundwater contamination.
- A wetlands law gave the DEP control of many development activities in the state's freshwater wetlands, major recharge areas for groundwater resources. Maine has identified 3,000 wetlands each of which is of ten acres or more in size.
- The legislature also required owners of salt and sand-salt storage areas to register the location of their storage areas with the DEP so that the latter could investigate and prioritize their potential threats to groundwater. The same law authorized the DEP to reimburse municipalities for up to 50 percent of the cost of building non-polluting facilities.

The public affirmed its support for groundwater protection by overwhelmingly approving a \$3 million bond issue in November to finance the underground storage tank law.

On June 10, 1985, Governor Joseph E. Brennan issued an executive order

establishing a Maine groundwater policy and ordering the Maine Land and Water Resources Council to establish a standing groundwater committee to oversee implementation of the policy.

Among other things, the policy calls for making groundwater policies responsive to changing conditions and related health risks, ensuring that waste disposal and other land use decisions are made only after full consideration of their likely impacts on groundwater, giving highest priority to protection of significant aquifers, assisting municipalities and water companies in protecting water supplies, and fostering greater public awareness of the importance of groundwater.

Groundwater was not the only course on Maine's 1985 environmental menu, yet it seemed to play an important role in almost all DEP endeavors for the year. Threats to groundwater lent an ever present sense of urgency to the need for bringing solid waste management practice into compliance with accepted standards. The groundwater connection hung heavy over operations in the DEP's Bureau of Oil and Hazardous Materials Control particularly as they pertained to uncontrolled hazardous waste sites and plans for their cleanup and/or roles in the consideration of hundreds of development applications processed during the year by the DEP's Bureau of Land Quality Control.

While much public attention in Maine in 1985 was focused on groundwater and related problems, groundwater by no means monopolized media attention. Acid rain continued to be a major source of en-

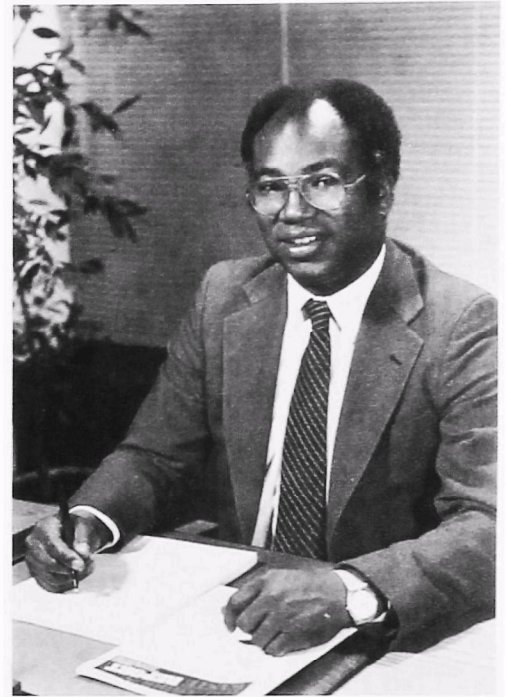
vironmental frustration in Maine in 1985 as cries of protest and mounting documentation of damage failed to elicit anything from Washington other than promises for more studies. The DEP's Bureau of Air Quality Control also concentrated resources on another airborne but seasonal pollution problem, ozone. Studies indicate the problem is increasing in coastal Maine, particularly in the south-central area.

While all evidence indicates that most of Maine's acid rain and ozone are the result of activities in the more industrialized areas to the south and west, the department is fully aware that Maine must continue to ask its citizens and businesses to observe the same environmental diligence and responsibility that must be enforced elsewhere in the nation if clean air is to become a reality.

This year the DEP is asking the legislature for the authority to adopt and implement regulations to reduce sulfur dioxide emissions similar to laws being drawn up by the other New England states.

MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

JAMES S. HOYTE, SECRETARY



As I look back over the past year, I feel very proud of the environmental accomplishments we have carved out in Massachusetts.

Two things are very clear: that it has been a strong year for significant environmental legislation and that we have done something that no one else has been able to do – we have begun the real task of cleaning up Boston Harbor and have made progress that can be measured up against anyone's yard stick. I want to note that one of the reasons we've been able to launch such a comprehensive and focused effort is because of the willingness of the EPA Region I office to place major emphasis on the recovery of this great resource.

At the close of 1984 Governor Dukakis signed into law the legislation that created the Massachusetts Water Resources Authority – the independent authority fashioned by us to take over the job of running the sewage collection and disposal system for the metropolitan Boston Area.

During 1985 we administratively and politically established this new entity which is a publicly appointed board of 11 of which I serve as chairman.

In this past year, the MWRA board has grappled with several important issues and in a short period of time has made significant decisions including:

- Location for a preferred site for a new sewage treatment plant.
- Reaching consensus to back the EPA decision that secondary treatment be required for the new plant.
- Deciding what to do with the sludge project on an interim basis while the

long-term solution is considered.

- Breaking ground in the fall at Constitution Beach in East Boston to begin work to upgrade the first CSO (Combined Sewer Overflow) as a tangible step towards improved harbor water quality.
- Initiating a \$40 million capital improvement program for the present plants on Nut and Deer Islands.
- Setting new water and sewer rates for the metropolitan district.

While in fact the issues of pollution in Boston Harbor are specific for that area, we have documented in 1985 that there is great cause for concern of our marine environment in general. A special paper prepared by our Department of Fisheries, Wildlife and Environmental Law Enforcement, Division of Marine Fisheries, in conjunction with Coastal Zone Management and the Department of Environmental Quality Engineering, indicates problems have surfaced despite all of our substantial ongoing efforts to preserve, protect and enhance our marine life and coastal areas, and these problems are accelerating at a faster rate than anyone could have anticipated even five years ago. It is clear to us that we have come up against the limits of our environment and that unless we take immediate remedial action we will face a serious environmental and economic loss.

To address these problems, I have formed a special interdisciplinary marine resources coordinating group and am holding public meetings to help us focus and manage our efforts to implement an action plan as quickly as possible.

The report indicates that problems stem from:

- Polluted waters that contaminate fish and shellfish and cause areas to be closed to harvesting, resulting in both economic and environmental losses.
 - Population and development growth which put stress on the natural resources.
 - Inadequate shoreside facilities and public access to the coast that makes it more difficult for the fishing industry to conduct its business.
 - Excessive fishing that neglects conservation and fish management.
 - A need for better coordination among agencies with overlapping jurisdictions.
- We will focus on solutions to these issues raised by our special paper in 1986.

Some of the largest gains we have made environmentally in Massachusetts in 1985 were through placing significant environmental legislation into law. That record includes:

- *Administrative "polluters" penalties law* that gives the state department of environmental quality engineering the power to levy fines without the delay of court process of up to \$25,000 per day against people or industries who are damaging the environment.
- *\$21 million added to the state superfund* coffers for toxic waste site cleanup.
- *State acid rain control law* that caps sulfur dioxide emissions in Massachusetts and establishes a state emissions reduction program if either a federal or regional program is not in place by the end of 1989.

- *Air pollution penalties law* that increases the current fines the state department of environmental quality engineering assesses to violators of air quality regulations.
- *\$427 million water and sewer construction bond* that allows more Massachusetts cities and towns to begin vital repairs to their water and sewer systems to ultimately improve groundwater quality, conserve water and to build much needed new wastewater treatment facilities. The bond is a creative approach to stretching federal aid dollars over more programs and is a state commitment to the environment and to our basic infrastructure.
- *Water management act* that will improve how we manage and protect our water resources across political boundaries. Water now becomes a public resource instead of a private or local one which will be especially important for areas that have water shortage or water quality problems.

In 1985 we have made progress implementing our landmark \$162 million open space bond that has 25 separate programs designed to protect and preserve or rehabilitate environmentally sensitive land around the state. In the past year, we have added 10,000 new acres to publicly preserved land in the commonwealth; have set in motion programs to rehabilitate 22 city and town commons across the state as well as 12 historic Olmsted parks; have authorized 45 grants to 28 cities and towns to acquire or rehabilitate conservation or park lands; and have awarded 18 grants to 17 coastal towns to improve their coastal facilities.

In short in 1985 we have continued to initiate and implement significant programs in our five environmental priority areas:

- To clean up Boston Harbor.
 - To develop an acid rain control strategy.
 - To closely protect and manage our valuable water resources.
 - To better manage our waste.
 - To preserve and protect our open space.
- For 1986 we will:
- Continue to focus on water resources protection, most particularly as it affects our groundwater.
 - Emphasize pesticide reform essential to groundwater protection with a goal of reducing our overall pesticide use by 25 percent by 1990 and an additional 15-20 percent by 1995. Pilot programs undertaken in 1985 already show this is a realistic goal for large Massachusetts crops such as cranberries and apples.
 - Continue to focus on waste stream issues which will include creating a plan legislatively mandated for disposing of our solid waste; implementing a household hazardous waste program; enacting a low level radioactive waste management process based on a special commission's draft plan; carefully reviewing our present hazardous waste siting process and increasing state Superfund resources.

- Continue to press for a national acid rain control strategy.
 - Continue our emphasis on land preservation and protection particularly in areas potentially stressed by development.
 - Maintain our substantial efforts that focus our energies and resources towards cleaning up Boston Harbor.
- Our achievements of 1985, especially our legislative achievements, could not have been accomplished without the support and cooperation of everyone working together – environmentalists, legislators and public officials. I look forward to what we can achieve together in 1986.

NEW HAMPSHIRE - A STATE OF ENVIRONMENT

GOVERNOR JOHN SUNUNU

In New Hampshire most environmental activities are the responsibility of independent boards and commissions which report directly to the Governor. It is both a significant obligation and unique opportunity for a Governor to be directly involved with environmental programs. I am pleased to submit this report on behalf of our environmental agencies and our citizens.

Last year and in recent years, New Hampshire has faced a continuing challenge to preserve the unique character of the natural environment while serving all the other needs of a growing population and a booming economy. In this situation there is a complex relationship between natural resource policy, land use decisions and the environmental programs administered by the EPA. Hard decisions must be made every day.

Probably the best example of the results of this effort is our groundwater program. We have initiated a statewide effort of detailed aquifer mapping (in cooperation with the U.S. Geologic Survey office) to supplement the general information which is now available. Clearly, the key element of groundwater protection is wise land-use decisions, made on a daily basis by local governments and almost as often by the state in public facilities and highway construction, will be of even greater weight than permit conditions will in assuring groundwater protection.

Our water supply and pollution control program remains strong. Last year saw considerable improvement in the public water supply program and continued activity on the pollution control side. New Hampshire pays 20% of the eligible cost

of federally funded water pollution control facilities and regulates such diverse pollution sources as subsurface disposal systems and non-point sources such as logging operations and land disturbance due to construction.

Wetlands disturbance and dock locations are regulated by the Water Resources and Wetlands Boards. When it became apparent that our stringent review of dock permits was having its desired effect, the number of moorings on our larger lakes increased dramatically. To control this, I imposed a moratorium on moorings last July.

We have introduced legislation which will create innovative cooperative state/local programs on docks and moorings. We also hope to have in place soon, legislation encouraging and permitting towns which share the same lake to develop uniform land use and site development plans.

Towns around three of our major lakes have already begun work in anticipation of this legislation. The density of lake development and the manner in which it is regulated could have a far greater negative effect on water quality than after-the-fact and costly abatement projects can repair.

Solid and hazardous waste continues to pose a significant challenge. We have seven resource recovery plants either in operation or on the drawing boards and continue an aggressive hazardous waste site cleanup program under both the federal Superfund and our own hazardous waste cleanup fund. Probably the most notable success story was played out at the Tibbetts Road site where exemplary cooperation between our state agencies,

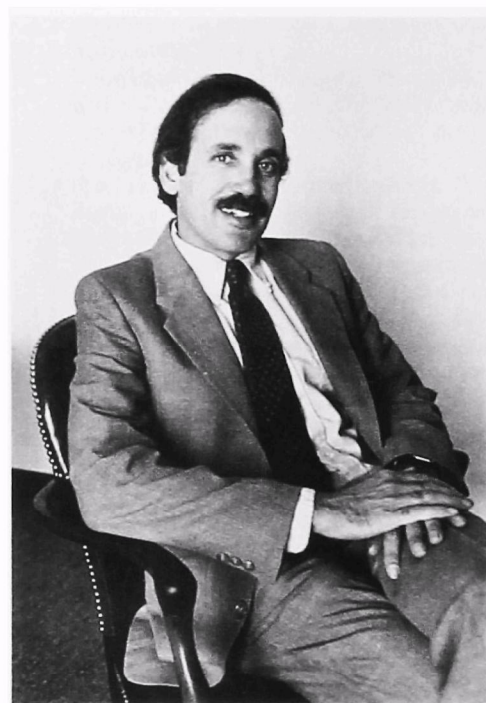
the EPA, the Barrington town officials and the affected citizens has led to a solution to a serious hazardous waste situation (including the late discovery of dioxin) in record time.

Air pollution, particularly long-range transport, remains a major concern. New Hampshire enacted a stringent acid rain control law as well as legislation requiring annual performance checks of pollution control equipment in the densely populated southern tier and anti-tampering inspections statewide. I will continue to work on the regional and national scenes to develop solutions to long range transport of both oxidants and sulfur.

Throughout the year, we were supported by excellent cooperation from the EPA regional office, our legislature, our industrial community and our citizens. The key to long-term sustained progress is frank and honest communications between these groups. I signed our Acid Rain Bill last June. We enjoyed broad-based support on this issue and on many others during the year. Some states have legislated more extreme programs but few have enacted more effective programs. That's the New Hampshire way.

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

ROBERT L. BENDICK, DIRECTOR



Traditional measurements of the quality of Rhode Island's environment show 1985 as a year of progress. Background levels of traditional pollutants in Narragansett Bay and its tributaries were down. Air quality showed continued improvements.

Among the factors contributing to environmental improvement were continued upgrading of major sewage treatment facilities; increased enforcement directed at air and water pollution violations; implementation of strict underground petroleum and hazardous materials storage tank regulations; and the consistency of day to day monitoring and inspection.

Other specific highlights include opening upper Narragansett Bay to shellfishing on a regular basis for the first time in years; closing the state's last private landfill; reducing by 50% permit renewals backlogs for major municipal and industrial wastewater treatment facilities in the 14 months since the state took over responsibility of the program from EPA; and installing a computer system that can flag pollution standard violations quickly, spot trends, and provide data for future studies.

However, as development continues in the rural and suburban areas of the state, and sources of pollution become more dispersed, it is apparent that traditional methods of measuring the health of Rhode Island's environment are not enough.

Major relationships have been established with the University of Rhode Island and, to a lesser extent, with Brown University, to provide technical support to DEM staff. Stronger ties were developed

with the state health department to jointly assess human risks from environmental threats. New technical staff reflecting a diversity of scientific skills were hired. Long range studies of the bay and groundwater began, including a study of how certain land uses may impact drinking water wells.

The Narragansett Bay Project, administered by DEM and established in 1984 to gather data which will help manage estuaries more effectively and efficiently had completed by the end of 1985 its first six months of field research. Project scientists from the University of Rhode Island have collected data to establish the interrelationships between sewage treatment, water quality, and quahogs with the aim of improving water quality management and fisheries management for the bay.

Public education about household toxic wastes and oil spills has increased, and enforcement actions against industrial polluters have been well publicized.

Still, there are major problems. Widespread illegal application of the pesticide Chlordane, abandoning hazardous wastes at industrial plants, unearthing PCB-contaminated oil in a farmyard, received much attention. Thus, the criminal investigative unit has been extremely active and must be expanded.

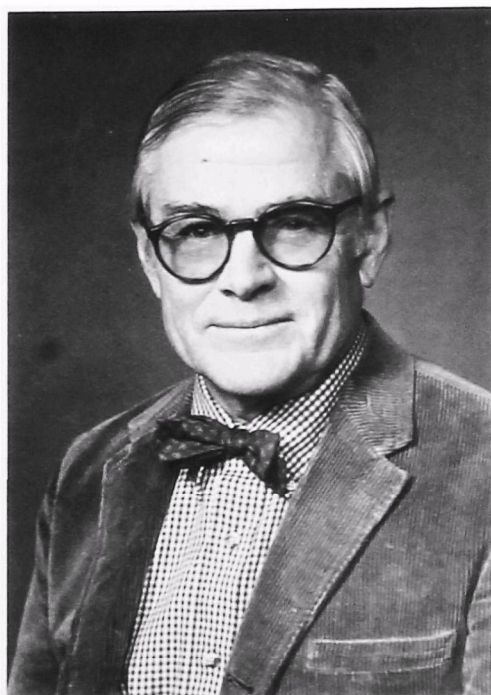
There remains a need for more comprehensive water supply planning and more detailed understanding of the relationship between water use and effluent levels. The studies and data-gathering started in 1985 should begin to provide policy guidance in 1986 for more effective protection of surface and groundwater supplies.

In addition, programs begun in 1985 will continue in 1986 to improve and preserve the health and quality of the state's environment. These include implementing regulations for alternative fuel burning; requiring regulations for new sources of air pollution to apply best available control technology; cradle-to-grave tracking of hazardous wastes; and starting the work on a new inventory, inspection, and monitoring program for air toxics.

Finally, DEM is now well into a joint project with the University of Rhode Island's College of Resource Development to establish a comprehensive geographic information system which will record and track all environmental data in Rhode Island. We hope this system will be the cornerstone of future environmental programs in the state.

VERMONT AGENCY OF ENVIRONMENTAL CONSERVATION

LEONARD U. WILSON, SECRETARY



Vermont reinforced its commitment to a clean and healthy environment in 1985 with a legislative session which gave the Agency of Environmental Conservation (AEC) far-reaching powers to control activities which pose a risk to groundwater quality. An underground storage tank program was established, a mini-Superfund created and a groundwater correlative rights bill adopted. The mechanics for the protection of groundwater quality were put into place.

The legislative program reflected the importance placed on environmental quality by Governor Madeleine M. Kunin in her inaugural address and the subsequent policy statements that set the direction of her administration in January. Jonathan Lash was appointed commissioner of water resources and environmental engineering in February to give strong leadership to the agency's key environmental protection department. Within the Agency, we have emphasized the coordination of the programs between the fish and wildlife department, the forests, parks and recreation department and those of water resources to assure that environmental quality is the dominant natural resource management priority.

During 1985, Vermont continued to upgrade waste management practices affecting the quality of air, land and waters of the state. Development of air toxic control strategies and visibility standards dominated the air pollution control programs. Acceleration of hazardous waste site cleanup, creation of an underground storage tank program, and recertification of landfills were priorities of the waste management program. In the surface

water area, work continued on the few remaining unsatisfactory discharges to waters of the state while advance waste treatment was established in several areas to control nutrient discharges. Commissioner Lash made organizational and management changes within the department to give enhanced status to the air and solid waste programs.

Our research priority in 1985 was measuring the consequences of acid deposition and transported air pollutants. Visibility studies as well as aquatic and forest impact monitoring added to the evidence that sulfates and other out-of-state air pollutants were increasing damage to Vermont's ecosystems and its economy. EPA Administrator Lee Thomas visited Vermont in August to accompany Governor Kunin and United States Senator Patrick Leahy on an inspection of forest devastation on Camel's Hump mountain which scientists attribute to air pollution.

In 1986 our top priority will be examination and modernization of our surface water pollution control statutes to provide greater protection for the fragile upland waters of the state, to provide acceptable and environmentally sound waste management procedures for the rapidly expanding recreation industry and to create a non-point source water pollution control program to manage diffuse contamination.

During 1986, we will intensify our solid waste management efforts, with emphasis on determining the most cost effective and environmentally sound strategy for the management of solid wastes. Increased efforts in recycling and resource recovery

will be considered as well as landfill disposal options for sludge management.

To support all of our management and control activities, we will be planning for a new and improved laboratory and expanding the use of risk analysis-risk management procedures in decision making.

We see as a major management challenge the continuation of our sound environmental protection programs as federal fiscal resources are diminished by federal budget balancing efforts. We are particularly concerned over reductions of federal assistance grants to municipalities for water pollution control facility construction. In addition, we are apprehensive about the consequences of diminishing federal funds for environmental programs both at the national level and through grants to states.