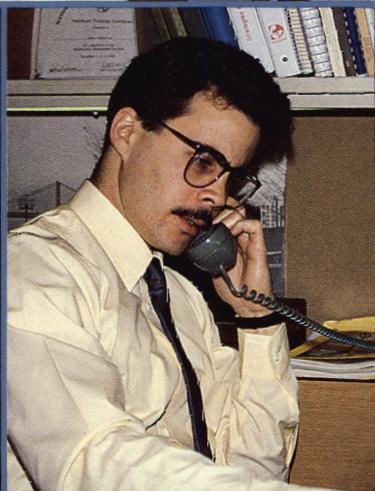
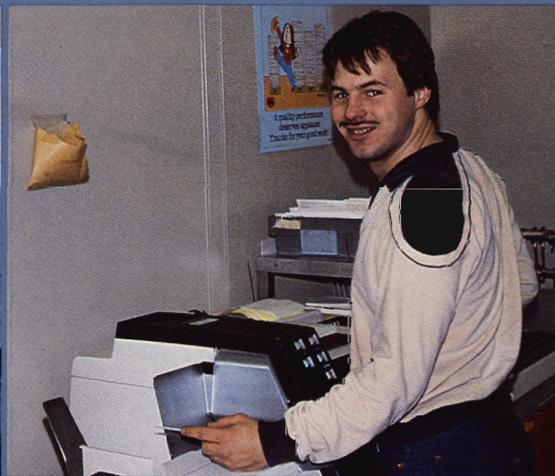
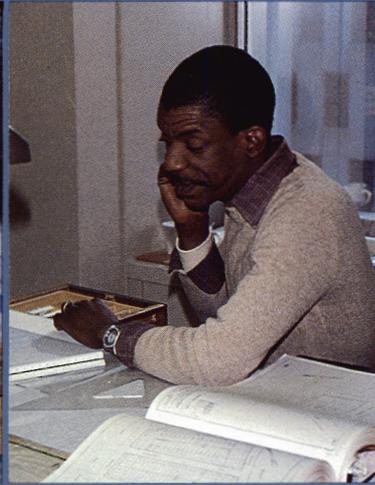


Annual Report



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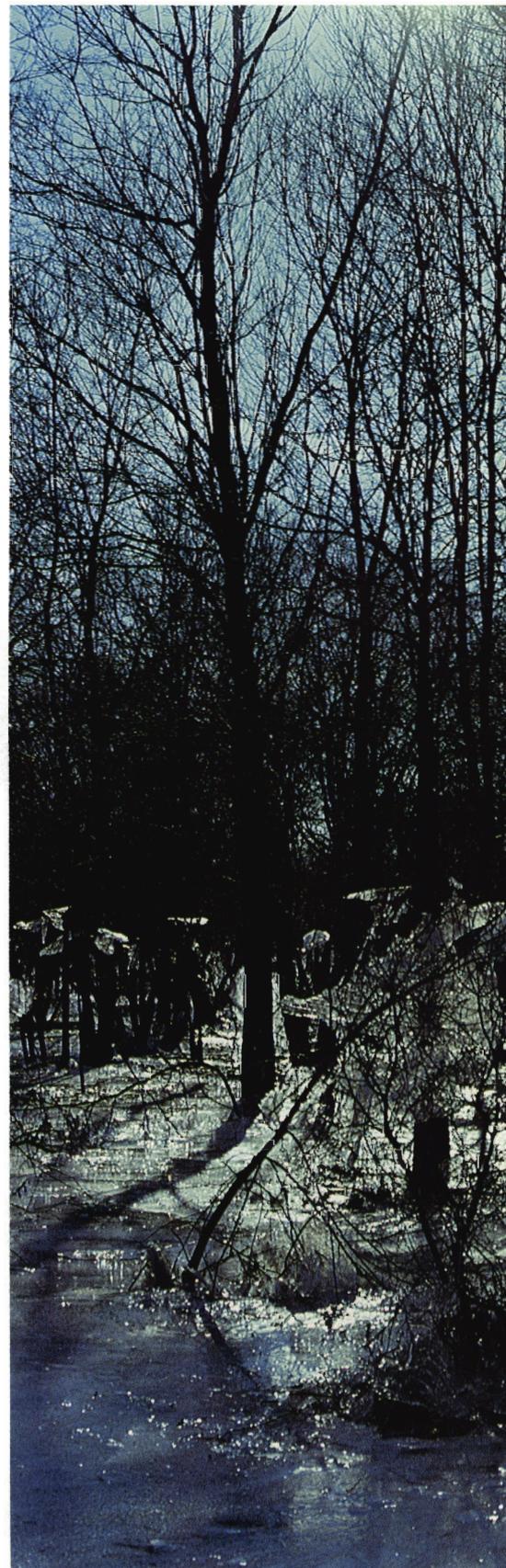
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To Governor Thomas H. Kean, Members of the New Jersey Legislature and Citizens of New Jersey:

I am pleased to present the 1984 Annual Report of the New Jersey Department of Environmental Protection. The report highlights responses to New Jersey's complex environmental problems and describes innovative measures taken in cooperation with local, county and federal agencies to fulfill our goals.

This report is dedicated to DEP's 2,542 employees, some of whom are shown in the cover photographs. The section of the report entitled "A Day in the Life of DEP" depicts just a few ways in which these employees work around the clock to protect the state's citizens, environment and natural resources. New Jersey can be truly proud of their efforts.

Commissioner Robert E. Hughey



DEP Finds New Ways to Manage New Jersey's Environment

Faced with the need to address an increasing number of major problems within a limited budget, the Department has sought new approaches and ideas, such as the ones described below, to carry out its responsibilities.

Green Acres

New Jersey became the first state to implement a voter approved open space revolving loan program—the Green Trust. The trust is designed to provide an on-going source of funds to local governments for the acquisition and development of recreation and conservation lands. In 1984, 4 counties and 75 municipalities took advantage of this innovative funding program.

Waste Management and Water Resources

A lack of federal funding for Resource Recovery facilities and cutbacks in federal grants for Wastewater Treatment plants prompted the Department to initiate changes in rate-setting and contractual laws in 1984 to allow for the privatization of these plants. With an initial investment of 25%, private businesses can finance the remainder of the project with Industrial Development Bonds which offer attractive tax benefits. Privatization enables the State to foster the development of these environmentally important programs by experienced and expert businesses, while continuing to regulate the facilities.

The Division of Water Resources also sought and received over \$150,000 in federal matching funds to carry out a study of ground water in the Cohansey Aquifer in southern New Jersey.

Parks and Forestry

The Natural Lands Trust, a non-profit corporation which acquires charitable gifts of land, commissioned an artist for a series of limited edition wood engravings on preservation of endangered species' habitat. The proceeds of the sale go toward operation of the Trust.

Combining available sources such as Green Acres funding, community grants, and Tax Act monies, allowed the "Main Street New Jersey Program" to assist communities to revitalize their downtown areas.

Science and Research

In June, 1984, Commissioner Hughey signed a joint memorandum with Health Commissioner Richard Goldstein establishing an interdepart-

mental committee to prepare a report on the development of risk assessment policy and needs in New Jersey. The Committee report was peer reviewed by a volunteer group of nationally recognized experts at no cost to the Department.

Coastal Resources

Public access to waterways will be greatly improved by implementation of a Division of Coastal Resources plan for a walkway along the Hudson River extending from Fort Lee to Bayonne. Developers will be required to plan and pay for the walkway along their land as a stipulation of their waterfront permit.

Personnel and Data Processing Services

The New Jersey Worker and Community Right To Know Act, which became effective on August 29, 1984, requires government agencies to comply with worker training and labeling provisions. Faced with the task of training over 1,400 employees, the Bureau of Environmental and Staff Training developed a modular training program so that personnel receive training tailored to their needs, saving time and money.

Fish, Game and Wildlife

Much needed habitat for ocean floor organisms is being created using old automobile tires to build offshore artificial reefs. The program, a joint project with Ocean County, will help ease the growing problem of disposing of used tires.

Export market development of New Jersey's coastal fish resources is being promoted internationally through a unique multi-language booklet describing these commercial species in five languages. The booklet was distributed at an international seafood exposition.

Environmental Quality

After the Legislature appropriated \$100,000 to the Department for acid rain studies, an intra-departmental Acid Rain Committee successfully matched the funds with outside sources. As a result, the Department received an additional \$45,000.

Financial Management, Planning & General Services

The new DEP building is expected to be ready for occupancy in 1986.



The functional reorganization of the Division of Financial and Support Services into the Division of Financial Management, Planning and General Services resulted in a structure which better meets the Department's needs. Enhanced office automation capability, improved contract management activities and consolidation of services were key elements in improved and more efficient support services.

The Division's Office Automation Unit expanded network links to include every DEP office in the Trenton area. Equipment enhancements allowed the creation of an electronic mail system and gave Department professionals both com-

puter power and word processing capabilities. Word processing efficiency was increased with the addition of the Optical Character Reader which reads typed documents and enters them into the DEP equipment for revising and printing.

The Contract Administration Unit participated in Request for Proposal development, proposal evaluation and contract award of a number of site-specific hazardous waste cleanup contracts. Working in cooperation with the Department of Treasury procurement personnel, several professional services term contracts in support of the hazardous waste cleanup program were completed.

Consolidation of the Department's clerical accounting function, completed in 1984, eliminated a duplication of effort within the operating divisions, improved turnaround time for accounting documents and resulted in a cost savings of \$215,312.

Construction of the new DEP building is on schedule with occupancy planned for 1986. It will provide modern office space for 1,400 Department employees featuring 70 percent cost-efficient modular systems and 30 percent enclosed offices, special areas for data processing and communications, and an information center.

Personnel and Data Processing

The Division's accomplishments for 1984 included an innovative Right-to-Know training program, expanded micro computer support activities, and the completion of several division reorganizations.

As part of a mandate for expanded educational activities under the New Jersey Public Employees Occupational Safety and Health Act and New Jersey Worker and Community Right-to-Know Act, the Division developed and implemented a modular training program. By the end of the year, approximately 1,200 Department employees had attended one or more of the five part program, depending on job responsibilities and the level of health and safety training required.

The Medical Surveillance Program, a DEP worker protection activity, was expanded with the addition of an industrial hygienist and a safety officer to handle any hygiene, health, or safety problem.

Expanded computer capability is the foundation of improved Management Information System efforts. A micro computer support section was established to aid micro users in planning

and developing effective system applications, to provide guidance for software procurement and system development, and to integrate various micro operations within departmental systems in order to assure compatibility.

Plans were completed for acquisition of a mainframe system using data processing initiative funds. The new computer will be the backbone of the Department's own data processing center which will serve as a satellite to the new statewide computer network.

The year was marked by innovative reorganization of divisional structures throughout the Department to meet with increased efficiency the operational requirements of legislated responsibilities. Key programs involving all aspects of departmental operations were upgraded. With the approval of the Department of Civil Services and the Office of Management and Budget, reorganizations of the divisions of Water Resources, Waste Management, and Financial Management, Planning and General Services and the Office of New Jersey Heritage were completed in 1984.

Regulatory & Governmental Affairs

DEP legislative initiatives, pursued in cooperation with various citizen advisory groups, the state legislature, and federal, state and local agencies resulted in public health protection, resource protection and revenue enhancement programs. Major legislation adopted during 1984 covered a wide range of environmental issues from striped bass regulations to hazardous chemical controls to establishment of a flood early warning system.

Important legislation included requiring owners or operators of industrial sites to make inspections and report the known or suspected presence of hazardous substances. An amendment to the Spill Compensation and Control Act removed obstacles to efficient hazardous discharge cleanup in the state. Bill A-280 requires water purveyors to test their supplies for hazardous contaminants. Other legislation requires that high-level alarm systems be installed at storage tank terminals for flammable liquids. The Open Lands Management Act provides for management and protection of private lands open to public recreation in the Pinelands area, and S-1353 authorizes the Division of Fish, Game and Wildlife to prepare for the implementation of the New Jersey Waterfowl Stamp Act.

Successful public information and education endeavors were sponsored by the Environmental Exposition Advisory Board within the Public Participation Office. The "How to Survive Under Hazardous Waste Regulations" workshop received an overwhelming response from business leaders throughout the metropolitan area. In October, the First Annual New Jersey Environmental Exposition, in Whippany, attracted approximately 90 exhibitors and 1,500 participants. Governor Kean and DEP Commissioner Hughey were among the featured speakers from government, business, industry and public interest groups. Technical sessions included discussions on acid rain, wastewater treatment and the Environmental Cleanup Responsibility Act.

In 1984, 80 percent of the deteriorated waterfront in the City of Hoboken was cleaned up, at a cost of approximately \$1.7 million, under the

auspices of the Office of Special Projects' Harbor Cleanup Program. The Jersey City South Reach, the Weehawkin to Edgewater Reach and the Bayonne Reach also saw great progress through this massive cooperative effort between the State and federal governments. Two new reaches, the Hackensack and Passaic River and the Upper Newark Bay, were added to this aids to navigation program in 1984. Public meetings with municipalities and affected waterfront property owners were held as the first step in the cleanup of those reaches.

The Office of Audit's increased emphasis on internal auditing provided greater overall accounting control for the Department. The Office audited the Keansburg Flood Control Commission and recommended improved accounting practices.

More than 700 of the approximately 2,500 calls to the DEP Communications Center 24-hour environmental hotline required immediate response from the Bureau of Emergency Response. Of those, about 210 represented life-threatening situations. The Center's staff was increased and equipment improvements were made. The Bureau improved methods of protecting employees involved in the emergency response effort with a new Respiratory Protection Manual and purchase of a respirator test booth to fit employees who must wear masks. The Emergency Response Manual, outlining each division's responsibilities in the event of a disaster, was streamlined to reflect an accurate chain of command, and the Telephone Manual was updated to reflect staff changes. The Deputy Emergency Coordinator made more than 20 presentations to emergency service groups throughout the state.

Regulatory Services

The Office of Regulatory Services provided legal assistance in developing rules for a number of new or expanded Department programs in 1984. A great deal of time was devoted to promulgating rules which implemented the new Environmental Cleanup Responsibility Act (ECRA) requiring owners of industrial facilities to either prove that no hazardous materials remain or that the site will be cleaned up prior to transferring ownership of the facility.

The Office also worked on rules and regulations for the licensing of solid waste transporters and facilities, the Worker and Community Right to Know Act, the Safe Drinking Water Act amendments, and changes to the New Jersey Pollutant Discharge Elimination System (NJPDDES).

Several administrative consent orders were issued in 1984 calling for privately funded cleanups at hazardous waste sites. Remedial action took place on contaminated sites in Newark, East Rutherford, Fair Lawn and Newfield.

DEP employees are taught how to use respiratory protection equipment during a "Right-to-Know" training session.

*a Day in
the Life of*
DEP

1:15 a.m.

Asbury Park

Office of Noise Control staff measure noise levels at discotheque.

2:00 a.m.

Cumberland County

Responding to an anonymous tip, Fish, Game and Wildlife conservation officers arrest deer baiting suspects; coincidental discovery of several marijuana plots leads to federal investigation and arrest of international drug ring suspects.

4:00 a.m.

Atlantic Highlands

Marine Enforcement staff check lobster boats for under-sized lobsters; conservation officers issue state and federal summonses to boat captains. (Typical fine: \$500.00 each)

6:14 a.m.

Sandy Hook

42-foot ocean sampling vessel with Water Resources technicians heads out into New Jersey territorial waters to dredge ocean floor for clams; bacteriological and chemical analysis determine shellfish in area are safe for consumption.



Waste Management



Waste Management personnel uncover drums buried at a hazardous waste site.

The Division undertook cleanup actions and instituted an aggressive preventative program in the area of hazardous waste. In response to the solid waste disposal capacity crisis, it also worked with counties to develop state-of-the-art resource recovery and disposal facilities.

Environmental Cleanup Responsibility Act

Formation of the Bureau of Industrial Site Evaluation to implement the landmark Environmental Cleanup Responsibility Act (ECRA) was an important highlight of 1984. Designed as a tool to prevent the abandonment of contaminated sites, the Act requires the owner or operator of an industrial facility to ensure that the site is free from hazardous substance contamination prior to any transfer of title or control. The application process required by ECRA allows potential problems to be detected and remedied before they evolve into more serious situations. The newly-formed Bureau received 538 applications for sites where businesses were closing or moving. It found that 175 of these sites were clean, required cleanup plans for 20 very significant sites, and oversaw cleanup projects ranging from minor soil and drum removal to multi-million

dollar remedial actions at more than 100 other sites.

Hazardous Site Mitigation

New Jersey continued to lead the nation in the competition for Superfund dollars and sites committed to remedial actions, as a result of its aggressive identification and classification program. In October, EPA announced 10 new priority Superfund sites in New Jersey, bringing the State's total to 95. A total of \$48 million was obligated in fiscal year 1984 for long-term cleanup, and almost \$6 million was made available as of September for short-term removal actions.

By October 1, the Department entered into Cooperative Agreements/Contracts with EPA on 36 Superfund sites. During 1984, 36 feasibility studies, 7 designs and 14 remedial actions were taken at various hazardous waste sites.

The Department completed two major, immediate removal actions in Hunterdon and Hudson counties. The larger of the two in Kearny, involved the cleanup of almost 13,000 55-gallon drums, most of which were in poor condition or leaking resulting in the disposal of more than 3,000 tons of bulk waste material including PCBs, liquid chemicals and highly reactive materials.

The Department's program to identify potential dioxin sites, the first such program in the nation, resulted in two significant Administrative Consent Orders for the cleanup of on and off-site contamination at a Newark site. Concurrent with remedial activities at the site, DEP and the Department of Health conducted a community relations program to answer questions and to keep area residents informed of cleanup activities. The Department has investigated 17 major potential dioxin sites. At four of the sites, dioxin levels exceeded the 1 part per billion "action level," and additional remedial actions were taken. Sites were secured to limit public access and contaminant migration. Based on field studies and related information the sites were rated in accordance with the Hazardous Ranking System and submitted to EPA for Superfund qualification.

Hazardous Waste Management

In August, the State submitted its application to EPA for final authorization of New Jersey's Hazardous Waste Management Program. To receive final federal Resource Conservation and Recovery Act (RCRA) approval, the State's rules must be equivalent to, or more stringent than, their federal counterparts. Earlier in the year, the State was given authority over the permitting of facilities that store hazardous waste in containers and tanks, and those that dispose of hazardous waste by incineration. Prior to this authorization, hazardous waste management facilities were subject to both federal RCRA and New Jersey permitting and operational standards. EPA approval for final authorization is expected early in 1985.

In June, the Division adopted regulations governing the licensing of businesses engaged in the collection and disposal of solid and hazardous wastes. By requiring disclosure of all responsible employees and stockholders, the regulations will enable the State to deny operating permits to known criminals and to firms likely to misuse or abuse their permits, in violation of state or federal environmental laws.

In addition, the final draft regulations establishing stringent operational, design and ground water monitoring standards for landfills, surface impoundments and land treatment facilities were developed and submitted to the Office of Regulatory Services.

Resource Recovery and Solid Waste Planning Activities

The Division took a number of steps to ensure the maximum practical use of resource recovery technologies throughout the State. It worked closely with Essex County to ensure the county's proposed 2,250-ton-per-day mass burning water wall incinerator complies with all steps of the permit process. The facility, one of six currently undergoing permit review, will accept non-hazardous waste and produce high-pressure steam for the generation of electricity.

In July, the Department approved construction

of the Atlantic County Justice Complex Heat Recovery Incinerator, the first such authorization of a waste-to-energy plant in New Jersey. Other projects receiving Division approval were the Fort Dix Heat Recovery Incinerator in Burlington County and resource recovery facilities in Warren, Bergen and Camden counties. By year's end, these projects generated about \$400 million in bond sales for resource recovery facility development.

Governor Kean signed legislation developed by the Department to provide financial incentives for resource recovery development. The law provided special funds to support county waste programs and offset the initial higher disposal fees at resource recovery facilities compared to landfills. In addition, it modified the facility procurement processes to ensure that resource recovery projects could take advantage of favorable federal tax advantages.

In May, New Jersey's first state-of-the-art landfill since the passage of the Solid Waste Management Act, opened in Cape May County. Environmental safeguards at the 70 acre landfill in Woodbine and Upper townships include a double-liner with a leachate collection system on top of the primary liner and a leachate leak detection system above the secondary liner. Several counties are now on firm schedules to develop much needed landfill facilities to respond to the current disposal capacity crisis.

Data Management

Significant progress was made in the revision and expansion of systems to manage the large volume of data associated with project management, registration and enforcement activities.

The New Jersey Waste Information Tracking System, used to manage information related to all of the Division's solid and hazardous waste programs, was expanded and upgraded in 1984. The Division developed a system designed to track abandoned hazardous waste site cleanup activities. It will increase the Division's ability to manage ongoing cleanups and plan for future activities in terms of both workload and federal and state funding. Revisions to improve the vehicle registration system which enables the Department to register all hauler/collectors of solid and hazardous waste were begun. It also developed a facility permit tracking system which will be fully operational in early 1985. Plans are also underway to develop a tracking system which would allow the Division to follow an enforcement case from initial involvement with the Department until final resolution of the matter.

Field Operations, Compliance and Enforcement

The Bureau completed over 4,000 inspections and investigations at hazardous sites and solid waste facilities. In addition, the Division responded to 1,165 citizen complaints regarding spill incidents which included 177 emergencies.

Water Resources

The Division emphasized improvements in intergovernmental and interagency coordination and public health protection in 1984. It refined its workplan with EPA and developed an aggressive sign-up plan to enlist the help of several county environmental health agencies. Within the Department, the Division defined its responsibility to furnish Superfund and other support services to the Division of Waste Management and put several mechanisms in place to improve coordination with natural resources management programs.

Water Quality Management

The Division's Water Quality Management Element drafted a state-wide Sludge Management Plan. It included development of a number of disposal options for sludge (the residue of sewage treatment) which will assist treatment facilities in finding alternatives to landfill disposal of sludge which will be prohibited in 1985.

The sewer extension program adopted stricter environmental controls as of July 1, 1984, and the Division adopted a new regulatory program requiring more self-regulation of wastewater system growth. The regulations will require that sew-

erage authorities and municipalities with plants that have reached 80% capacity to submit a plan for future expansion of treatment capacity or control of growth. Automatic bans on new sewers will be imposed when 100% of capacity is reached.

Ten industrial pre-treatment programs were approved in 1984 these regulate industrial wastewater pollutants, especially those that might affect the operation of publicly owned sewage treatment works. The new approvals bring the total number of programs to 17 which is 71% of N.J.'s goal.

The number of regulatory permits issued for facilities discharging effluent into surface and groundwater accelerated in 1984 under the New Jersey Pollutant Discharge Elimination System (NJPDDES) program. Additional staff were hired to assist with the program, which has been remarkably successful in groundwater regulation according to a recent audit by the U.S. General Accounting Office. The results of the audit identified New Jersey as one of the leading states in the nation in achieving compliance (85%) with groundwater monitoring requirements. This success was attributed to specific legislative, technical and management approaches that have been employed in implementing the State's regulatory philosophy.

Water Supply and Watershed Management

The Division adopted the regulations necessary to implement the initial phases of the landmark Hazardous Substance Testing Program required by Assembly Bill A-280. The law mandates the establishment of maximum contaminant levels for 22 organic compounds in order to protect public health over a lifetime of exposure and regulates testing of drinking water for these and other contaminants.

The Water Supply and Watershed Management Element successfully initiated the contaminated well field program by assisting five municipalities which have tainted water supplies. The program's major elements include the development of the most cost-effective water supply alternative, identification of financial sources, and assistance with procurement of funds.

Management of New Jersey's water supplies was enhanced by the development of the General Water Supply Management regulations. Prevention measures to reduce water losses by improved water supply system maintenance and rehabilitation and conservation measures to reduce water consumption are key statewide elements of the rules. Regional problems will also be addressed by defining critical areas where water use exceeds the dependable yield of the aquifer and regulating water diversions within these critical areas.

A major step forward in the Passaic River Basin was the selection of a plan incorporating both structural and non-structural measures to achieve basin wide flood protection and control. The nucleus of the plan is the construction of a tunnel to divert flood waters, providing protection



Technicians attempt to recover fuel oil from a stream.

from a 100 year storm event. The Department working in cooperation with the Corps of Engineers began the consultative process with the public and local officials to discuss concerns, opportunities and technical details of the plan.

The Division extensively revised its Flood Hazard Area Regulations strictly limiting the amount of building permitted in flood hazard areas. The new restrictions will protect the ability of the areas to contain flood waters, decreasing the extent of flood damage experienced in the State each year.

Enforcement

The Division's Enforcement Element took on significant additional enforcement responsibilities due to new mandates under the Hazardous Substance Testing Program, the Environmental Cleanup Responsibility Act, the Resource Conservation and Recovery Act, and the Discharge Prevention Containment and Cleanup Plans. A program was initiated whereby penalties were assessed for monitoring violations under the Safe Drinking Water Act. A total of 589 enforcement cases were handled in 1984.

In order to handle its increased responsibilities the Division delegated certain enforcement functions to county health agencies. Since enforcement cases typically involve several Divisions and require frequent site visits, the Department established regional enforcement offices to house staff from the Divisions of Water, Environmental Quality and Waste Management. As a result of this decentralization, enforcement actions can be undertaken in a more coordinated and timely manner.

Construction Grants Administration

The Construction Grants Administration (CGA) developed an innovative way to reallocate \$8.4 million in unused grant monies for the construction of additional water quality improvement projects. By allowing grantees to "deobligate" excess funds, this aggressive program gives authorities the incentive to redirect the use of resources that otherwise would remain idle.

EPA approved CGA's Priority System and Project list for fiscal years '84 and '85 and for the first time ever awarded grants for a fiscal year ('85) one year ahead of time. CGA also received a \$99.7 million federal appropriation for construction of new water and sewage treatment plants or other water quality improvement projects.

The Division took a large step forward in the Camden area, with the issuance of two major grants for the regional system. Other major grant award recipients were Landis Sewerage Authority, Township of Woodbridge and Township of Wyckoff. The Hudson County Utilities Authority received money from a special fund for abatement of combined sewer overflow pollution to rehabilitate sewer systems in Weehawken, Union City and Jersey City.

Monitoring and Planning

The Monitoring and Planning Element simpli-

fied and clarified the surface water quality standards used in all regulatory programs affecting water quality in streams and rivers in preparation for its tri-annual revision. The Element also adopted and implemented Water Quality management consistency regulations in the New Jersey Pollution Discharge Elimination System permitting program.

The 1984 State Water Quality Inventory Report, prepared for the U.S. Congress pursuant to the Clean Water Act, provides insights on the State's progress in clean water programs.

The Division allowed several Raritan Bay shellfish beds to reopen in 1984 after extensive monitoring for both bacteria and heavy metals indicated levels there and in New York Harbor were within acceptable limits. With New Jersey's support, the Interstate Sanitation Commission voted to return to year-round disinfection of sewage discharges into the harbor in order to improve water quality. EPA awarded the Division a grant to study urban runoff in the Navesink Watershed where bacterial pollution has long restricted harvesting and marketing of shellfish.

The Division implemented an active lakes management program in 1984, and received EPA grants to fund restorations at Weequahic and Etra lakes and Lake Hopatcong. Restoration projects for North Hudson Park and Allentown lakes were completed under the Clean Lakes Program.

New Jersey Geological Survey

The N.J. Geological Survey embarked on a five-year study of aquifer systems which are highly stressed due to water depletion. The study, undertaken in cooperation with the U.S. Geological Survey and funded by the 1981 Water Bond Act, involves the Atlantic City, Camden and South River areas. As in many other facets of the Division's responsibilities, computerization of collected field data will help streamline the analysis process. The federal and state Geological Surveys also signed a cooperative agreement to produce an updated geologic map of the State.

The Geological Survey staff was active in helping municipalities find additional groundwater supplies, assessing geologic hazards such as the collapse of a house into a sinkhole in Phillipsburg, and providing technical assistance in groundwater contamination investigations.

*a Day in
the Life of*
DEP

8:03 a.m.

Washington, D.C.

Representatives of the N.J. Washington Office begin day-long meetings with key DEP personnel to discuss federal legislative initiatives.

8:30 a.m.

Trenton

In response to a citizen request for information on the pesticide Sevin, the Office of Science and Research conducts a computer literature search.

9:00 a.m.

Camden

The Bureau of Flood Plain Management holds a seminar for local officials on implementation of new stream encroachment and flood plain management regulations.

9:42 a.m.

Perth Amboy

Air Pollution inspectors check industrial plant to determine compliance with State and Federal regulations.

10:00 a.m.

Trenton

Training office instructs DEP employees in proper safety equipment use as part of compliance with Right To Know Act.

Environmental Quality

The Division instituted a number of new monitoring, enforcement and other programs to maintain and improve environmental quality in the State.

Radiation, Pesticides and Laboratories

The Radiation Section took the lead in 1984 investigations of radon gas contamination of Essex County homes built on radium-tainted soil. After personnel defined the contaminated area, a task force comprised of State and Federal agency representatives initiated remedial action and developed a monitoring plan. Responses included placing occupancy use restrictions, discouraging smoking, installing ventilation and monitoring systems in houses having high concentrations of radon, and issuing certificates to homeowners in homes where radon concentrations fell within acceptable limits.

The sites were listed on the Superfund National Priority List, and received emergency action funding from the Federal Superfund and the New Jersey Spill Fund. The first phase of a soil removal program was initiated to decontaminate and restore the first 12 of the 88 homes involved.

The Bureau of Emergency Response Coordination (BERC) was restructured to respond to requests for all DEP emergency investigations. BERC will receive incoming emergency information from the Department's dispatch unit and

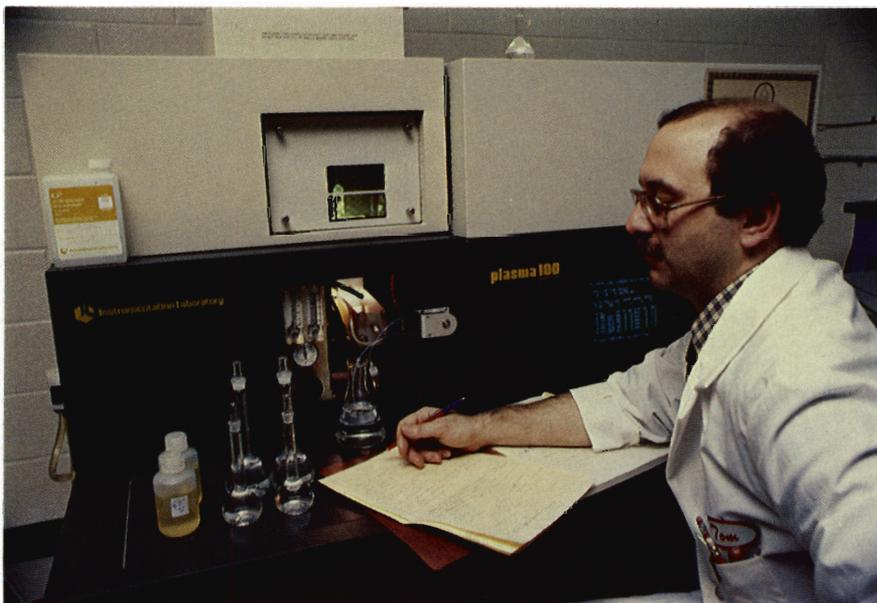
coordinate the rapid deployment of appropriate technical staff to the scene for assessment and remedial action. The Bureau maintains a state-of-emergency readiness for all incidents involving hazardous agents that come under jurisdiction of DEP. Last year, the Bureau investigated and resolved 89 emergencies involving the releases of hazardous, toxic, or radioactive materials. It also continued its annual Oyster Creek and Salem Nuclear Generating Stations field exercises and conducted 58 emergency response courses for local, state and police organizations.

New Jersey joined three other states in enacting the Northeast Interstate Low-Level Radioactive Waste Management Compact to provide a regulatory structure to address radioactive waste disposal issues in the northeast.

The Division's Nuclear Engineering Section continued its monitoring and oversight role in several areas involving nuclear materials and operations. The return of spent fuel rods to General Public Utility's (GPU) Oyster Creek Nuclear Generating Station in Ocean County from the defunct Western New York Nuclear Service Center led to court action as New Jersey attempted to require GPU and the Federal NRC to use the best routes into and through New Jersey. The Department also initiated a sampling and monitoring program at the Oyster Creek Nuclear Generating Station during the dredging of the plant's canal to ensure that there was no airborne release of radioactive materials. Background environmental monitoring began at Princeton Plasma Physics Lab, where a fusion reactor is being developed. The Nuclear Engineering Group also acquired a state-of-the-art computerized dose assessment system for use in the event of nuclear power plant emergencies. Installation of a second gas chromatograph/mass spectrometer, a sophisticated piece of analytical equipment, enable the Bureau of Environmental Laboratories to analyze water samples for volatile organic substances. A new atomic absorption spectrophotometer, which allows for detection of metals at lower levels, enable personnel to perform a greater number of analyses.

As a step in dealing with the disposal of pesticides and household hazardous substances by homeowners, farmers and other small quantity generators, the Bureau of Pesticide Control initiated a free pilot disposal project. The Bureau also proposed revisions to existing pesticide use codes which include restrictions on the use of termite control pesticides to minimize potential home and environmental contamination. The other sections address the protection of farm workers from unnecessary exposure and expand the control of aerial pesticide applications.

The Radiologic Technologist Certification Section continued inspection, licensing and registration of x-ray equipment and users throughout the State. The Radiologic Technology Board of Examiners, responsible for licensing examinations, developed informational pamphlets for distribution with license applications.



DEP's Environmental Lab performed almost 4,000 Priority Pollutant and Environmental Analyses in 1984.

Air Quality and Noise Control

The Division received \$100,000 from the Legislature to carry out acid rain studies and provided funds for four research contracts. Slated for completion in 1985, the studies focus on acidification of Pinelands streams, the relationship of toxic metals and acid rain in several northern New Jersey ponds, and the effects of acid deposition on crops and corrodible metals.

The Advisory Board of the Coalition of Northeastern Governors approved the State's proposal for an innovative funding mechanism for acid rain control. Initiated by Governor Kean, the proposal incorporates a zero-interest revolving loan fund to finance pollution control equipment needed to reduce acid deposition.

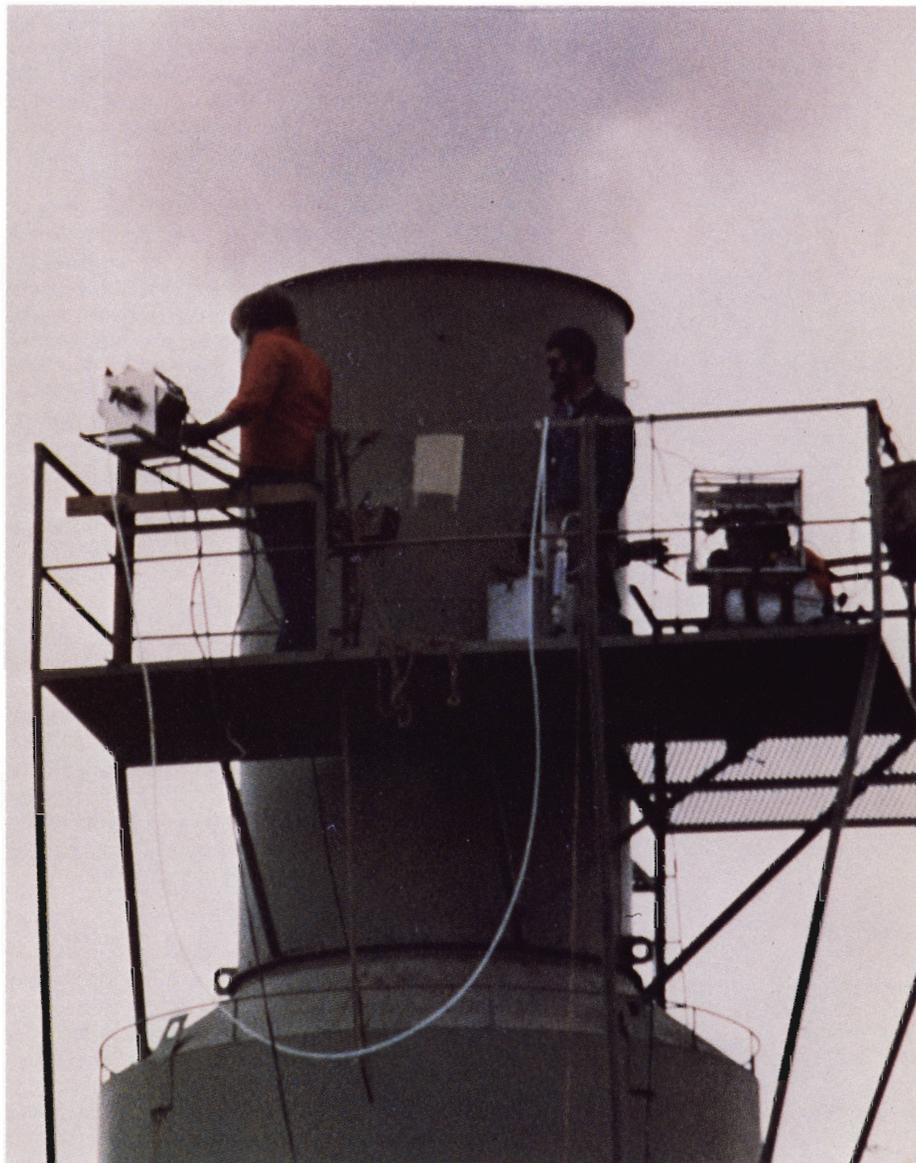
The Bureau of Air Pollution Control submitted a State Implementation Plan for lead to the federal government showing how New Jersey will attain and maintain a health-based ambient air quality standard for lead in accordance with the federal Clean Air Act. In order to reduce levels of two other federally regulated pollutants, the Department began the first phase of a program to reduce volatile organic substances (precursors of ozone) and carbon monoxide. The Department adopted tougher auto emissions standards, emission inspection standards for gasoline trucks, new testing procedures for all motor vehicles and the first phase of a program to prohibit tampering with vehicle emission control systems. It also approved an increase in offset requirements for new emissions of volatile organic substances.

The Bureau of Engineering and Technology reviewed 3,228 air pollution control permits and granted approvals to projects which demonstrated compliance with the requirement to use state of the art technology. Engineering and Technology also proposed that air permit fees be increased to make the program self supporting, and proposed more stringent ambient air quality standards and an ambient air quality standard for lead. The Division released an addendum to the Department's stringent resource recovery guidelines in November requiring that dioxin and heavy metals emission limits and risk assessment be a part of permit applications for major facilities.

The Office of Noise Control revised and updated noise control regulations and brought commercial motor vehicle establishments into control. In addition, it established two model ordinances controlling stationary and mobile noise sources for use by local governments. The Office conducted approximately 130 investigations and oversaw numerous abatement actions.

Enforcement

Under the auspices of the County Environmental Health Act, health departments from Camden and Cape May counties entered into Interagency Agreements with the Department to control environmental pollution. The Department establishes performance agreements with the local agen-



Stack testing at Barrett Asphalt in Trenton.

cies and then monitors program accomplishments. These cooperative agreements with local health agencies supplement and complement the Department's full enforcement activities.

To promote a better understanding of the Air Pollution Control Program, the Division held a one-day training session at the Cape May County Health Agency. Personnel discussed regulations and procedures for processing complaint investigations, reporting violations and initiating enforcement actions. They also conducted meetings with administrative health officials and investigators, and conducted joint field inspections.

Science and Research

From its involvement with the landmark New Jersey Work and Community Right to Know law to its role in implementing amendments to the Safe Drinking Water Act, the Office of Science and Research (OSR) made many significant contributions for continued public health protection in 1984.

A comprehensive and unique approach to public health protection, the Right to Know law, which went into effect in August, serves as a model for the rest of the nation. It requires that employers disclose information about toxic substances at their facilities. This enables citizens to make more informed decisions about where they live and work, allows emergency response personnel to respond more effectively to chemical emergencies at the facilities, and gives the Department extensive information about the use of toxics in the state. A sophisticated computer database developed by OSR gives the Department immediate access to information that can guide new efforts in environmental monitoring.

Fundamental to implementation of the program, OSR developed two surveys to collect information from employers ranging from the chemical industry to other government agencies. One survey will provide information on the use, storage, and disposal of a list of chemicals with the potential to cause chronic health effects or environmental hazards. The second survey, designed specifically for firefighters and police, will provide them with data on materials that may be hazardous under emergency conditions.

Program Accomplishments

An OSR investigation defined the extent of dioxin contamination in foodfish found in New Jersey waterways. Six resident and three migratory species of finfish and crustaceans within the tidal Passaic River were contaminated, as were the same migratory species found in the Newark Bay/Hudson River/New York Bight area. Samples of bluefish and American lobster also showed elevated dioxin levels. The Office also studied the health risks associated with the consumption of dioxin-contaminated striped bass, bluefish or lobster. Based on the results of that risk assessment in August, Commissioner Hughey ordered a continuation of the ban on finfish and shellfish from the tidal Passaic River, and extended the ban to include striped bass and blue crabs from Newark Bay, the tidal Hackensack River and the Arthur Kill Van Kull.

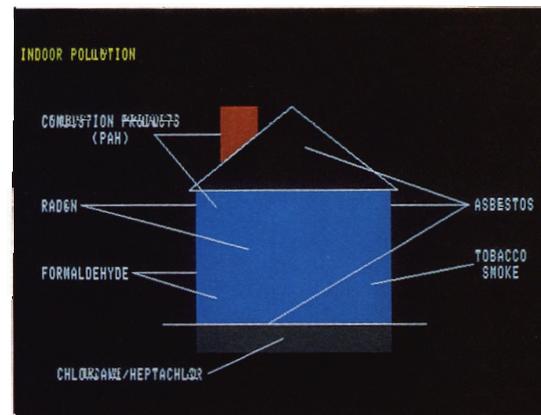
In response to detection of dioxin in soils near densely populated areas such as Newark, the Office worked in conjunction with toxicologists at UMDNJ/Rutgers Medical School to establish how much of the soil-bound dioxin would be absorbed if it were accidentally ingested. Results of the study suggested that public health risk from ingestion is minor. OSR also provided assistance and technical support in the evaluation of the Newark dioxin contamination by verifying federal guidelines on techniques for conducting theoretic

cal exposure assessments and toxicological data for use in risk assessments.

Responding to changes in the Safe Drinking Water Act, the Office initiated a research program with Rutgers University to develop techniques for monitoring six substances for which no standardized methodologies exist to perform analyses in drinking water. Under the new amendments, public community waters system must periodically monitor for 22 organic contaminants known to have various toxic effects.

The Ames method was used to test wastewaters and air particle samples for their DNA-changing (possibly cancer causing), or mutagenic characteristics, and procedures for analyzing sludge samples were developed. In March the extensive Ames work with industrial wastewaters culminated in the release of "Mutagenicity Analyses of Industrial Effluents: Background and Results to Date." Based on testing at 24 facilities, the report found that approximately one-third of the selected wastewaters had some level of mutagenic activity.

Addressing the problem of arsenic contamina-



tion of the Blackwater Branch of the Maurice River, Union Lake downstream and the estuary below it, a 1984 study investigated the environmental implications of arsenic within surface waters changing form as physical and seasonal changes occur over distances downstream. Arsenic's chemical behavior varies depending on the environment, and different forms have different toxicities and pose different health risks. The study showed the importance of maintaining healthy conditions in Union Lake in order to prevent a significant release of arsenic into the water column.

The New Jersey Project on Airborne Toxic Elements and Organic Species, the most comprehensive study of non-criteria air pollutants at the state or federal level to date, was completed in 1984. The project documented levels of the pollutants in both rural and urban environments in summer and winter, investigated their variability in the environment and attempted to determine their sources. Many of the more than 50 materials measured (benzene, cadmium, benzo-a-pyrene) are suspected to have chronic health

effects on selected individuals after prolonged exposure.

Cooperative Achievements

Representing DEP on the Governor's Asbestos Policy Committee, the Office contributed a number of policy recommendations for reducing public exposure to asbestos in the environment. One major recommendation was the development of a program for reducing asbestos fiber content in potable water supplies by establishing regulations limiting the use of asbestos-cement pipes and setting a maximum contamination level in drinking water. The Office also recommended the establishment of monitoring programs for asbestos in ambient air at demolition sites and at landfills.

One of the most serious environmental mercury contamination problems in the world is found at Berry's Creek, adjacent marshes and an associated industrial disposal site in the Hackensack Meadowlands. In 1984, OSR scientists provided technical expertise during negotiations of a consent agreement between responsible parties and the Department to enable a privately funded remedial investigative/feasibility study, which will result in a cleanup plan. Importantly, the study will allow further understanding of the behavior of mercury in the Berry's Creek ecosystem. Based on preliminary studies funded by the Office, research will focus on mercury's chemical form in the ecosystem, its potential for entering the food chain and the role marshes play in its transport.

OSR played a key role in evaluating the problem of significant radon gas levels found in homes in Montclair, West Orange and Glen Ridge after ore wastes from a radium-processing plant in Orange were used as fill. The Office also provided technical assistance in assessing health effects and risk, explained scientific issues to local citizens and officials, and met with representatives of State and federal agencies to establish a comprehensive approach to the situation. In addition, the Office participated in the review and evaluation of steps taken to remedy the situation.

After OSR investigations revealed extensive PCB contamination of migratory bluefish stocks in northeast New Jersey (and sparked subsequent bans and advisories), the staff successfully prompted a federally-funded Atlantic coastwide study to determine the extent of the problem. The study, which began in October, was outlined at a series of meetings involving many of the coastal states and federal agencies including EPA, the Food and Drug Administration and National Marine Fisheries Service. The survey, conducted by the U.S. Department of Commerce, involves collection and analysis of bluefish across the entire range of their migration. The end product will be a special report to Congress drafted by all agencies involved, including NJDEP, suggesting remedial measures for all the Atlantic coastal states.

Graphics equipment in the GIS created this illustration showing a problem occurring in energy efficient, well-insulated homes. The materials do not escape from the homes, especially in winter, and have all been linked with adverse health effects.

All OSR projects are conducted with the cooperation and assistance of the federal Environmental Protection Agency.

Environmental Protection Agency



a Day in the Life of **DEP**

10:34 a.m.
Trenton

Word Processing Center starts 32-page rush job from the Office of Regulatory Services.

11:20 a.m.
Morristown

Waste Management personnel and State Police spot check trucks on Route 287 for compliance with waste hauling regulations.

11:40 a.m.
Trenton

Personnel officer counsels pregnant employee on Pregnancy Disability Leave and Child Care Leave policies.

12:10 p.m.
Trenton

Fiscal officers have an emergency waiver quickly approved to cleanup a hazardous condition in Elizabeth.

1:00 p.m.
Newark

Office of Science and Research scientists collect samples at the Passaic Valley Sewage Treatment Plant to check plant's ability to treat pollutants.

Parks and Forestry

Parks '84—an ambitious year-long, state-wide celebration—achieved dual goals of promoting awareness of New Jersey's open space resources "from the mountains to the shore," and addressing future recreation needs. Governor Kean and other officials attended an April ceremony at Washington Crossing State Park commemorating "Year of the Parks" and in May, DEP Commissioner Hughey signed an agreement with the Nature Conservancy to establish a two-year Natural Heritage inventory. The Governor's Conference on Recreation Resources in December provided a forum for public input and recommendations for increased awareness, appreciation, development and use of park resources, in order to develop a New Jersey parks and recreation master plan.

Among Parks '84 festivities was the June celebration at the Delaware & Raritan Canal State Park commemorating the 150th anniversary of the canal's opening. Other major events included the Parks '84 Golf Tournament in September at the Spring Meadow State Golf Course and the 10K Governor's Race for Open Space, held in October at Monmouth Battlefield State Park after a year-long series of qualifying races.

Another 1984 highlight was the Forest Fire Service's celebration of Smokey the Bear's 40th birthday. The service's Smokey Bear caravan, with major fire prevention programs in Liberty State Park, Trenton and Atlantic City to mark Smokey's visit to New Jersey, became a national

event. Smokey's appearance at the Meadowlands received national television coverage on ABC Monday Night Football.

In addition to special Parks '84 activities, the State Park Service held the annual Harbor Festival, an Ethnic Festival and an Antiques Fair at Liberty State Park and opened the bathhouse structure at Cheesequake State Park. The service implemented an Annual Boat Launching Permit valid at both Liberty State Park and Leonardo State Marina. State Park Rangers participated in a series of Wildlife Weekend workshops sponsored by the Division of Fish, Game and Wildlife and other agencies to further their understanding of ecological matters and other issues within their work areas.

The Park Summer Seasonal Program employed 621 individuals, in lifeguard and other capacities, and increased minority hiring over 1983 levels. Although funding could not match grant applications, 85,000 youths were able to participate in the Office of Youth Services program either through the transportation or campership portion.

The Natural Lands Management Trust received a 262-acre donation of environmentally significant land on the fringe of the Pinelands Preserve area in Ocean County. The Trust also commissioned limited edition wood engravings by artist Stefan Martin to promote preservation of endangered species through land donation. Official announcement of the sale was made in February, and proceeds benefit the Trust.

The Bureau of Forest Management's Rural Forestry Assistance Program encouraged the use of consulting foresters to provide technical assistance to private landowners. The Bureau and consultants provided such aid to 1,832 New Jersey landowners, and Forest Management plans were written for 10,801 acres of privately owned land.

The Office of New Jersey Heritage handled an increased load of Preservation Tax Incentive applications, with Jersey City rehabilitations accounting for two-thirds of the requests, and inner city housing projects leading the projects list. "Main Street New Jersey," designed to revitalize downtown business districts, was announced in May. A cooperative effort between the Office and Green Acres, the rehabilitation program capitalizes on the existing structures' historic fabric while utilizing progressive marketing and management techniques.

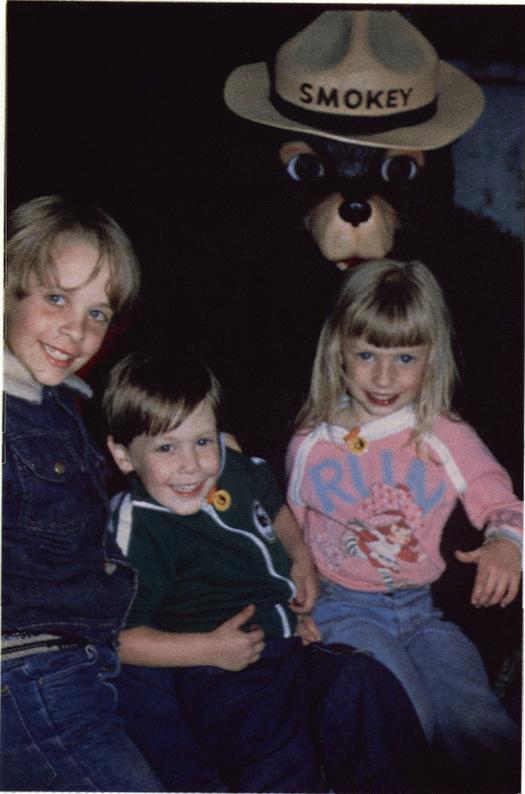
Two non-profit corporations were formed in 1984 to assist the Division in its role. The corporations are composed of citizen volunteers with financial, legal, and management expertise. The first, the Liberty State Park Development Corporation, a Governor's initiative, will implement the Department's Action Plan for the future development of Liberty State Park. The first project at Liberty will be a Science and Technology museum.

The Natural Resource Education Foundation of

Twin Lights Historical Site, Highlands, New Jersey



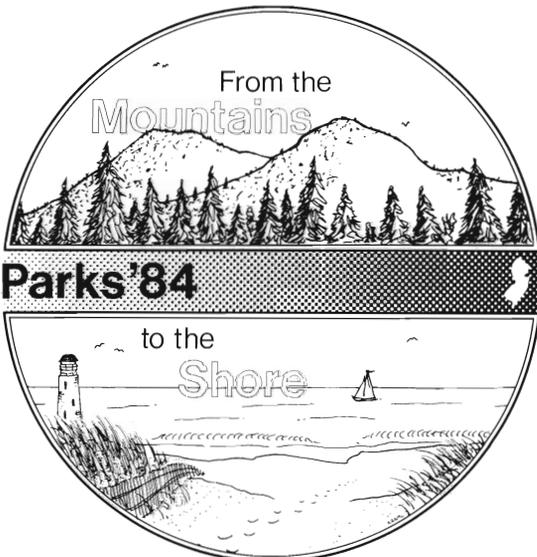
New Jersey, Incorporated, a private non-profit corporation, was established in 1984. The Foundation will solicit financial support from the private sector for development and improvement of educational programs throughout the State Park System.



1984 marked Smokey Bear's 40th Birthday.



Lifeguard protection is available at 18 areas throughout the State Park System.



Facts and Figures

| | |
|--|-------|
| State Parks and Recreation Areas | 40 |
| State Forests | 11 |
| State Historic Sites | 24 |
| State Natural Areas | 38 |
| State Marinas | 4 |
| Campsites | 1,366 |
| Cabins | 57 |
| Environmental Centers | 13 |

1984

| | |
|---|--------------|
| State and National Registered Properties | 38 |
| Tree City, USA awards | 23 |
| Seedlings distributed from State Nursery .. | 1,832 |
| Number of forest fires | 961 |
| Acres burned in fires | 1,805 |
| National Lands Trust donations (acres) | 341 |
| Attendance at State Parks | 9,000,000 |
| Cords of wood available in Homeowners Firewood Program | 3,368 |
| Tax Act Projects | 110 |
| Tax Act Rehabilitation Expenditures | \$75,000,000 |

Fish, Game and Wildlife

From a waterfowl stamp to wild turkey season in the southern part of the State, the Division was responsible for a number of New Jersey firsts in 1984. Continued success was achieved in such endeavors as the bald eagle hacking program and strong foundations were laid for innovations such as the Garden State Reef.

Wildlife Management, Conservation and Education

The first New Jersey waterfowl stamp, depicting a pair of canvasback ducks resting on the water by Rutherford wildlife artist Tom Hirata, was designed to raise funds for wetlands acquisition and preservation through sales to resident and non-resident hunters. Effective July 1, 1984, the same legislation that created the stamp also established a nine-member waterfowl advisory committee. The group is charged with recommending

New Jersey's first waterfowl stamp.



expenditures of the funds raised from the sale of the stamps and the first-of-state prints.

Another first was the four-week spring turkey season in portions of Atlantic, Cape May and Cumberland counties. The birds were reintroduced to New Jersey in 1977. Since then, natural dispersal and intensive trap and transfer work have spread wild turkeys into 13 of the State's 21 counties. Reestablishment of wild turkey populations throughout the State has provided increased recreational opportunity for sportsmen and folks who like to see and photograph wildlife.

The 1984 introduction of Project WILD, a nationwide wildlife and natural resource program, marked a major commitment to student education. This interdisciplinary environmental education program, aimed primarily at teachers of grades K-12, got its start in the summer with the

training of workshop leaders from the leading conservation, environmental and wildlife organizations throughout the state. Workshops for teachers began in the fall. Instructional activity guides stress skills analysis, problem solving, decision making, creative writing and computation, as well as a commitment to wildlife and the environment.

Freshwater and Marine Fisheries

1984 saw the start of construction of an artificial reef six miles off Long Beach Island, Ocean County. Although the reef is New Jersey's seventh, the cooperative pilot program developed to create it is another State first. Involving both the Division and Ocean County officials, the artificial reef will not only provide a habitat attractive to many varieties of marine life, but the program could provide a safe and inexpensive method of used tire disposal.

In August, a 52-foot former party boat became the reef's first major unit. Stripped of all salvageable materials, the boat was loaded with concrete blocks and sliced tire units, then sent to the bottom. Lying in about 75 feet of water, the completed reef will encompass two sites—one a mile square and another one mile by one-quarter mile. Bales of sliced, bundled and weighted scrap tires will be used to form the reef.

The clean debris attracts encrusting organisms such as barnacles, mussels and algae. These in turn attract food and gamefish, which are also drawn to the cover provided by the reef. In addition, disposal of scrap tires in this manner is preferable to burning, which is banned by stringent environmental regulations, or landfill disposal, which is often expensive.

Another significant Marine Fisheries project in 1984 was the reintroduction of striped bass into Monmouth County's Navesink/Swimming River system in order to establish a self-sustaining population in the future. Young striped bass, of the non-migratory Brookneal strain, were obtained as fingerlings from the U.S. Fish and Wildlife Service. Half were stocked directly into the river and half were sent to the Division's Hackettstown Hatchery, where they were fin-clipped for later identification and release, as they grew larger, throughout the fall.

The program is historically significant, as more than a century ago striped bass from the Navesink River were transported to California's San Francisco Bay. The bass formed the basis of today's thriving west coast striper population.

The Bureau of Freshwater Fisheries' Pequest Trout Hatchery exceeded all expectations in its first year of operations. Equally divided among brook, brown and rainbows, the trout were in generally excellent health and averaged over 10 inches when stocked. The hatchery's success means that the Division will no longer have to rely on additional trout from federal hatcheries.

The transfer of the trout program from the Hackettstown Hatchery to the Pequest facility re-

Facts and Figures

| | |
|---|------------|
| Trout Distributed from Pequest | 633,145 |
| Trout Distributed from Hackettstown | 293,902 |
| Wild Turkeys in 13 NJ counties | 4,000 |
| Surf clams harvested (bushels) | 10,000,000 |
| Tax check-off revenues (1983) | \$450,000 |
| NJ Peregrine chicks hatched in 1984 | 11 |
| Endangered species in NJ | 35 |
| Threatened species in NJ | 19 |
| Striped Bass stocked in Navesink | 50,000 |

sulted in a massive, unprecedented fall trout stocking that peaked interest at a time of year when most anglers would be storing their tackle for the winter. Augmented by excess yearlings from Pequest, the stocking totaled almost half a million trout. The Division will continue to have a fall trout stocking program for at least the next 5 years.

Endangered and Non-Game Species

While the Endangered and Non-Game Species Program celebrated 10 years of service, several projects took great strides forward in 1984.

In the spring, the courts gave the State the right to acquire the land surrounding the nesting site of New Jersey's only nesting pair of bald eagles. Acquisition of the environmentally sensitive 1,500-acre East Bear Swamp tract in Cumberland County ensures that the nesting site will remain undisturbed.

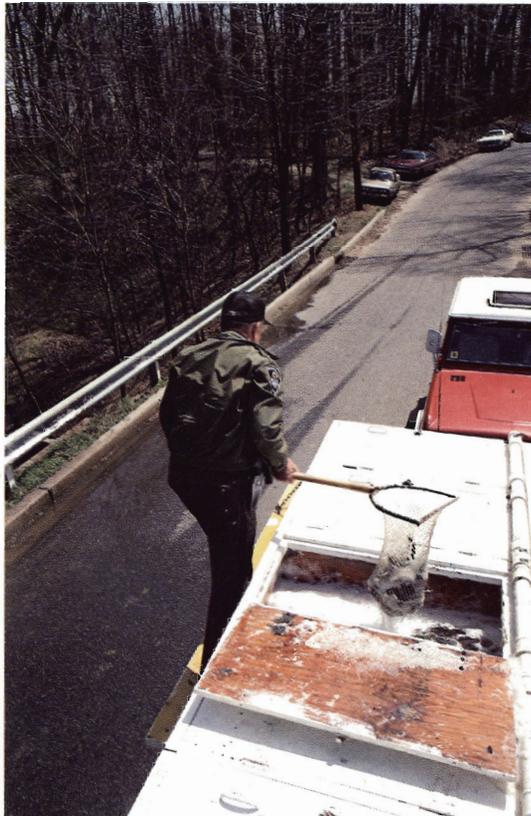
The bald eagle restoration project saw one eagle chick fledge successfully and the bald eagle hacking project continued on a larger scale, receiving 10 eaglets from Canada in 1984.

With a number of successful hatchings in New Jersey in 1984, the peregrine falcon continued to inspire management efforts for critically endangered species. Eggs from New Jersey peregrine falcons were donated to Cornell University's Peregrine Fund for their captive breeding program. It is hoped that this "double-clutching" process (taking eggs from birds before they are hatched) will stimulate them to renest and does not harm the population. Although the peregrines are still endangered, they are an example of a species whose prospects for survival have been improved through wildlife management techniques.

Another cooperative effort, involving a landowner, the Green Acres Administration and the Endangered and Non-Game Species Program, resulted in the protection of New Jersey's largest heron rookery. The landowner, a Hunterdon County logging company, signed a conservation easement to restrict logging in and around the 30-acre rookery near Great Meadows in Warren County. The arrangement allows the landowner to retain ownership of the property, yet at the same

time ensures the safety of the more than 200 pairs—80 percent of the State's population—of great blue herons.

New Jersey taxpayers continued to show their strong support for endangered and non-game species projects through the innovative income tax check-off for wildlife program, and donations reached an all-time high. A line on the State tax return allows residents to "check off" \$2, \$5 or \$10 (or write in any other amount) to be deducted from their tax refund or added to their tax burden. The monies are donated to the Endangered and Non-Game Species Program.



1984 was an excellent year for trout fishermen due to an unprecedented fall trout stocking.

a Day in the Life of DEP

1:20 p.m.
Toms River

Coastal Resources enforcement officer on a routine field inspection discovers illegal fill dumped on wetlands area and issues violation notice to property owner.

2:30 p.m.
Trenton

Fiscal and Green Acres staff attend legislative hearings on appropriation of 1983 bond funds.

3:00 p.m.
Weehawken

Green Acres staff participate in a park dedication.

3:23 p.m.
Trenton

Division of Environmental Quality laboratory performs pesticide sample analysis.

4:15 p.m.
New Brunswick

Division of Waste Management engineers appear in Superior Court with Deputy Attorney General regarding court hearing on landfill problem.

Green Acres



Improvements were made to Seven Presidents Park, the only county-owned beach in New Jersey.

1984 was a year of accomplishments for the Department's Green Acres Program, with the establishment of community parks throughout the State, promotion of a linear park concept to protect stream corridors, and implementation of programs meant to facilitate land acquisition and planning for county and municipal open space areas.

Plans and Programs

Throughout 1984, public meetings were held to introduce and explain the Green Trust policy. This new program recycles a portion of the 1983 Green Acres bond issue money through issuance of revolving low-interest loans to local municipalities. This unique financing concept expands Green Acres' acquisition and development capability far beyond the limits of past bond issues by returning funds to the Trust.

Under the auspices of Community Open Space plans, Green Acres held informational seminars throughout the State to aid municipalities in their parks and open space planning efforts. Special emphasis was placed on multiple recreational and environmental objectives. A statewide Comprehensive Outdoor Recreation Plan, developed by the Green Acres Planning Bureau, established

a mechanism for the coordination of outdoor recreational planning projects on all levels.

At the 1984 New Jersey Recreation and Park Association Conference, Green Acres held an informational session to discuss the Local Project Priority System. This system provides a way to examine proposed local open space projects and rank them on priority basis using several criteria including environmental considerations, recreational potential, cost and accessibility.

Green Acres Administration was one of several departmental agencies that was instrumental in obtaining the court-approved condemnation of East Bear Swamp. The environmentally sensitive 1,500-acre tract in Cumberland County is the nesting site of the state's only pair of nesting bald eagles. An acquisition of the land surrounding the nesting site not only protects valuable bald eagle habitat, but shelters other species of flora and fauna as well. The condemnation ruling will also enable the Office of Land Management to develop a management plan to maintain the site.

The year also saw the production of a Green Acres film. Produced by New Jersey Network, and funded in part by a corporate donation, the documentary provides an excellent description of program accomplishments since the passage of the \$60 million 1961 bond issue which established Green Acres, and offers a look at future program directions.

Another 1984 Green Acres project was the revision of the New Jersey Public Open Space and Recreation Areas map. The work updates an earlier edition of the document and provides a graphic inventory of major county and state open space reserves.

Green Acres was established to ensure that residents of a highly urbanized state have a sufficient amount of open space to enjoy. In 1984 the program accomplished a great number of projects which contributed to that end in all parts of New Jersey.

In January, Green Acres was responsible for additions made to both Allamuchy and Delaware & Raritan state parks, as well as to the Cedar Creek headwaters in Ocean County.

In April, project funding approvals were granted for Waterfront Park in West New York, Roebling Park in Florence, Fenwick Creek Park in Salem City and for a boat launch on Maple Avenue in Red Bank Borough. These totaled \$479,850. In May, Arthur Kill Park was dedicated in Elizabeth. The park marks one step in the area's seaport and waterfront revitalization effort. The project received \$2.8 million in grants from Green Acres and the federal Land and Water Conservation Fund. Green Acres and the Land and Water Conservation Fund also provided \$1.8 million for Seven Presidents Park in Long Branch. The Monmouth County park, which was dedicated in May, is the only county-owned beach along the New Jersey shoreline.

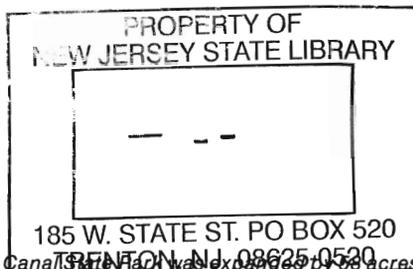
Green Acres played a role in the establishment of other parks dedicated in 1984, including Cedar

Brook Park in Plainfield, Veterans' Riverfront Park in Highland Borough and Buck Gardens in Somerset County. A 9-hole expansion to Flanders Valley Golf Course in Morris County was dedicated in July and is rated as one of the 50 best public golf courses in the country. Also dedicated in July were such Green Acres endeavors as Waltman Park in Millville, River Edge Park in Florence Township and Etra Lake Park in West Windsor.

The program made enhancements to Newark's open space areas possible in 1984. In June, the city opened a visitor's center on Echo Lake in its watershed region and in August the basketball courts in the city's Branch Brook Park were resurfaced.

In October, Spring Lake Park in South Plainfield was dedicated, and Hoboken's Erie-Lackawanna Plaza was opened using the Hoboken Terminal as a backdrop.

By the end of 1984, 6,249 acres were added to the States publicly held lands.



The D&R Canal State Park was expanded by 58 acres and celebrated its 150th anniversary in 1984.

Open Space and Recreation Acreage—1982

| County | Parks | Forests | Rec. Areas | Wildlife Mgmt. | Marinas | Historic Sites | Natural & Misc. Areas |
|------------|--------|---------|------------|----------------|---------|----------------|-----------------------|
| Atlantic | | 11,208 | | 14,673 | 47 | 4 | 777 |
| Bergen | 1,018 | 846 | | | | 6 | 350 |
| Burlington | 1,315 | 111,735 | 191 | 1,293 | | 10 | 89 |
| Camden | | 14,287 | | 3,426 | | 1 | |
| Cape May | 747 | 10,063 | | 21,298 | | | 7,012 |
| Cumberland | | 1,616 | | 38,654 | 19 | | |
| Essex | 120 | | | | | 2 | |
| Gloucester | | | | 4,979 | | | |
| Hudson | 1,076 | | | | | | |
| Hunterdon | 828 | | 5,599 | 1,472 | | 1 | 145 |
| Mercer | 1,790 | | | 1,051 | | 6 | 120 |
| Middlesex | 1,717 | | | | | 3 | 53 |
| Monmouth | 4,488 | | | 6,918 | 11 | 7 | 299 |
| Morris | 2,445 | | | 4,706 | | | 1,362 |
| Ocean | 5,063 | 12,167 | 446 | 38,036 | 13 | 1 | 658 |
| Passaic | 9,053 | 5,747 | | 1,412 | | | 6,400 |
| Salem | 1,229 | | | 5,962 | | 1 | |
| Somerset | 1,848 | | | | | 7 | |
| Sussex | 27,562 | 15,149 | | 7,655 | | | 488 |
| Union | | | | | | 1 | |
| Warren | 382 | 6,949 | | 2,234 | | 3 | 150 |
| Total | 60,681 | 189,767 | 6,236 | 153,769 | 90 | 53 | 17,903 |

Source, 1984 Outdoor Recreation Plan of New Jersey



Coastal Resources



Damage to the Boardwalk in Atlantic City near Oriental Avenue as a result of the March 1984 storm.

Several major accomplishments were among the Division's notable achievements in 1984. In addition, there were a number of organizational and procedural changes that resulted in a stronger and more responsive Coastal Management Program.

Special Projects

The severe northeast storm that battered the coast on March 29 prompted an emergency disaster response by the Division and other agencies within the Department. Through outstanding intergovernmental cooperation with the Federal Emergency Management Agency, the N.J. State Police, U.S. Army Corps of Engineers and other state and federal agencies, the Division evaluated storm damage to the state's coastline and performed whatever emergency measures were necessary to protect lives and property. Based on these evaluations, the State of New Jersey was awarded more than \$1,000,000 in relief funds from the federal government.

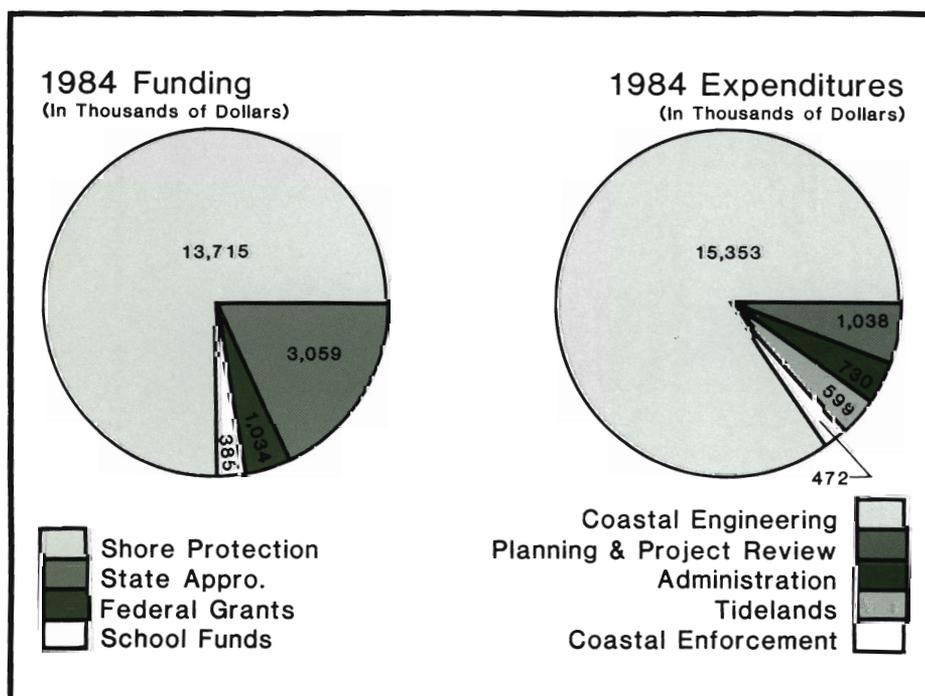
A long time goal of the Department, public access to waterways, achieved great strides in 1984 when the Hudson River Walkway Plan and Design Guidelines were completed and unveiled by Governor Kean at a ceremony in Jersey City. When implemented, the walkway will allow public access to the Hudson River from Fort Lee to Bayonne.

In another access project, the Division developed a New Jersey Ocean Beach Access Strategy. Signs indicating public access points to the shore were posted at appropriate locations. Through the use of portable accessways, handicapped persons can now go to the waters edge at Island Beach State Park and North Wildwood.

Governor Kean and the legislature approved the first appropriation, totaling more than \$10 million, from the \$50 million Shore Protection Bond Issue approved by voters in 1983. These funds will be used for 11 shore protection projects along the coast—jetty and bulkhead repair, beach nourishment, seawall construction—as outlined in the Shore Protection Master Plan. The chosen projects were given priority on the basis of the relative severity of the problem at each site and the cost effectiveness of the solution.

Contractual studies conducted in 1984 examined a wide range of coastal issues aimed at protection of this valuable limited resource. In one study, fish and shrimp taken from a man-made lagoon were compared with samples from an adjacent natural bay area in an effort to assess relative productivity. In another, Rutgers University analyzed several artificial salt marshes in order to evaluate past marsh projects and to suggest guidelines for future wetlands projects.

Damages to the dune and beach areas caused by the March storm were assessed. This analysis lead to several suggestions for modifications to municipal dune management ordinances. Specifically, it was recommended that municipalities establish clear guidelines for fencing and protective vegetation and that elevated wooden walkways are placed over dunes and over dune protected street-ends. Additionally, municipalities are asked to remap dune lines due to frequent migration of dune systems. In future shore protection grants to municipalities, the Division will be looking for satisfactory dune ordi-



nances and enforcement of these ordinances.

The Division completed a two-year study of the tourism economy and associated energy development impacts in the coastal zone. The study quantified the vital part that coastal tourism plays in the New Jersey economy and describes the economic relationship between energy development and tourism revenues.

Divisional reorganization

The Division was reorganized in 1984 and several procedural changes were made. The Bureau of Coastal Project Review was combined with the Bureau of Planning and Development into one Bureau of Planning and Project Review. The new Bureau and the Bureau of Coastal Enforcement and Field Service developed a procedural agreement which defined and resolved several ambiguities in permit coordination and responsibility between the bureaus.

Procedural rules for implementation of the Wetlands Act, the Waterfront Development Act and the Coastal Area Facility Review Act were consolidated into the Coastal Permit Rules to simplify, improve and expedite permit review. The Division also initiated a Coastal Information Management System which will utilize computers to track permits and organize information.

The Rules for Coastal Resources and Development Policies, which form the basis for all permit decisions, underwent comprehensive review in 1984. The review was based on comments from environmentalists, developers and the general public. The Department is now formally proposing a set of amendments in the New Jersey Register for adoption in the Spring of 1985. These amendments include a revised Affordable Housing policy mandating that low and moderate income housing be made available in certain residential developments. Policies for dredging and spoil disposal were also proposed as amendments to increase coordination between state and federal agencies and to minimize the effects of such activities on the coastal environment.

Through mid-FY '84, the Office of Environmental Analysis's mapping production was maintained on schedule. Due to legally mandated procedural scheduling impacts, the original completion date of June 30, 1986 has been revised to June 30, 1987. In addition to preparing 199 claims maps in FY '84, 420 of the maps produced in prior years were digitized, using state-of-the-art computer technology, yielding metes and bounds descriptions of state-owned lands necessary for the preparation of legal descriptions of properties owned by the State.

Brady's dock in Bayonne at Kill Van Kull Park will become a part of the Hudson River Walkway from Bayonne to Fort Lee.

Virginia Ralston Parrott

a Day in the Life of **DEP**

6:00 p.m.
New York City

Commissioner tapes TV network interview on hazardous waste disposal in New Jersey.

8:00 p.m.
Freehold

Division of Water Resources holds a public hearing on a turf farm owner's permit application to use sewage sludge from a local wastewater treatment plant as an organic fertilizer.

10:00 p.m.
Lebanon

Citizen reports Pinelands forest fire to DEP Action Line; dispatcher contacts firewarden, local volunteers protect nearby homes; DEP controls fire within twelve hours using aircraft.

11:30 p.m.
**Washington
Township**

Press Officer receives phone call from AP news reporter inquiring about a gas release from a chemical manufacturing facility; press officer contacts field inspector, provides press update.



Planning Group



Aerial view of the Singer Complex in Elizabethport, the first site to be reviewed under the Environmental Clean-up Responsibility Act (ECRA).

The two-year-old Planning Group, conceived to give the department a unified voice in broad environmental policy issues, achieved a number of goals in 1984. These accomplishments were in matters as diverse as participation in an Army Corp dredging workshop, coordination of regional programs and review of major development projects throughout the state.

The Planning Group was involved in coordinating the State's position on Outer Continental Shelf lease sales held by the Department of the Interior in 1984. At Lease Sale 82 in the North Atlantic and Lease Sale 111 in the Mid-Atlantic, Interior offered underwater lands for offshore oil and gas developments. The Group prepared the State's input into issues of concern. These included protection of New Jersey's important marine, commercial and recreational fishing interests and protection of a shore-based tourism industry.

Ocean waste management was another regional program that received attention from the Group in 1984, with the formulation of a State strategy for ocean disposal of sewage sludge. The Planning Group articulated a state plan for moving ocean disposal of sewage sludge from a near-shore site roughly 12 miles off the coast to a more

distant deepwater disposal site off the edge of the Outer Continental Shelf 106 miles offshore. The recommendations successfully influenced federal regulatory actions and prompted Congressional legislation.

Two 1984 intergovernmental workshops were organized for the benefit of DEP constituent user groups. More than 300 planners, engineers and local officials attended a February workshop on permit coordination. The sessions focused on how to facilitate the process of obtaining environmental permits. The Planning Group also assisted in an August workshop with the U.S. Army Corps of Engineers to discuss regulatory aspects of harbor dredging and to exchange technical information on dredging and dredged material disposal.

The review of the Singer Complex in Elizabethport was a highlight of the Group's 1984 involvement with the State Economic Development Authority. Reviews of several hundred projects financed through EDA ensured that more than \$1.1 billion in private development was carried out in an environmentally acceptable fashion.

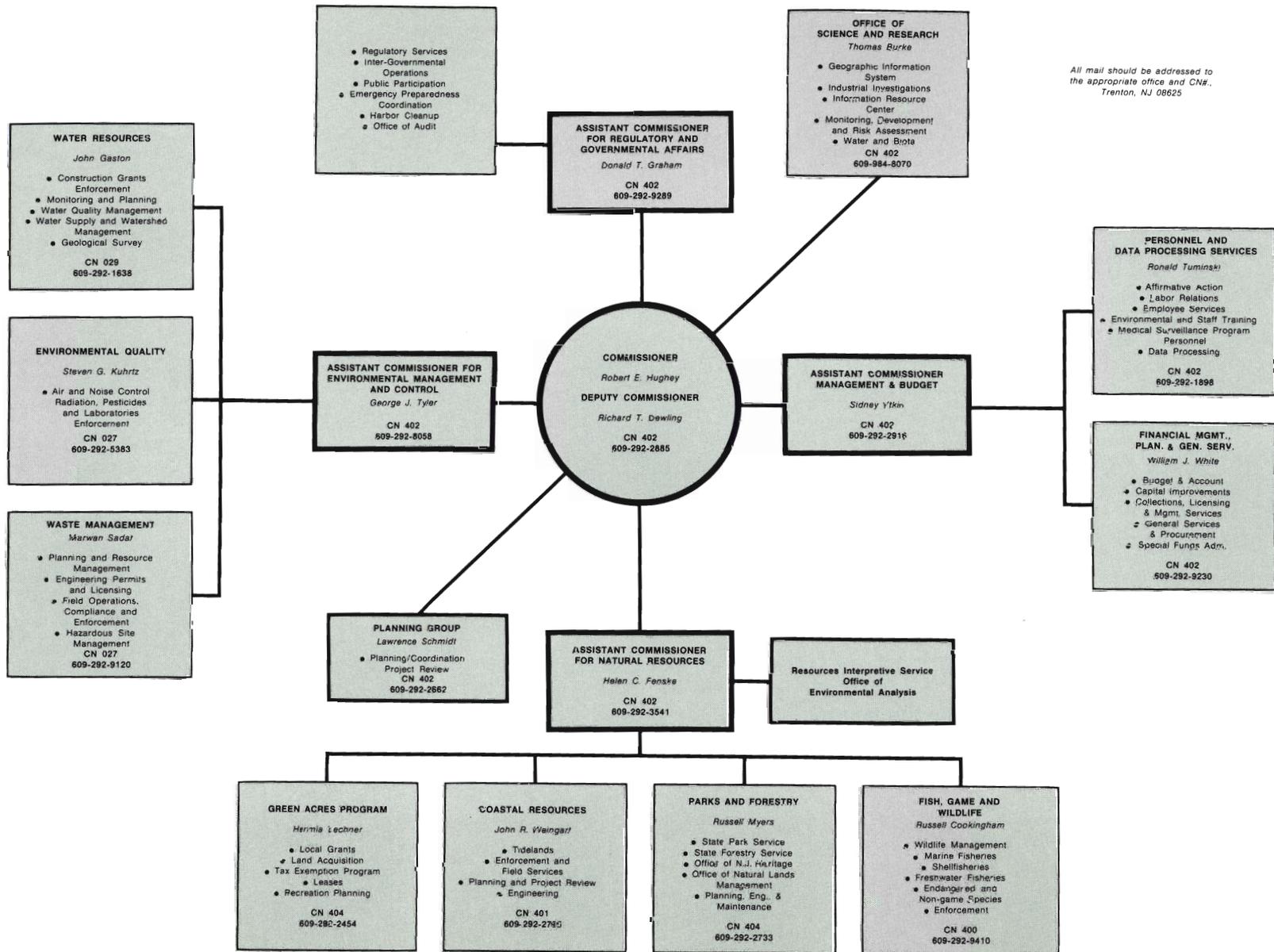
In addition, the Group participated in environmental reviews of a number of major development projects throughout the state, including major highway construction projects such as Route 24, I-287 and the Trenton Complex. The Group reviewed environmental issues associated with construction of a new prison in Newark and several institutional buildings being constructed by State agencies, and oversaw the environmental review process at DeKorte Park in the Hackensack Meadowlands. As envisioned, the park will transform wetlands and former landfills into an 1,800-acre open space and recreational facility. The Group coordinated planning activities for the park with Green Acres and the Department's divisions of Water Resources, Waste Management, and Coastal Resources.

Significant progress was made in the highly complex environmental problem of mercury contamination in the Berry's Creek Drainage Basin within the Hackensack Meadowlands District. In 1984, a Cooperative Agreement between DEP and the responsible parties was executed so that the necessary remedial investigations will now be conducted. The link with agencies outside the Department that was provided by the Planning Group brought about the level of coordination necessary to work toward a successful cleanup

The 1984 DEP Annual Report was prepared by the Resources Interpretive Service.

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Call DEP HOTLINE
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(609) 292-7172**

DEP Organization Chart



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