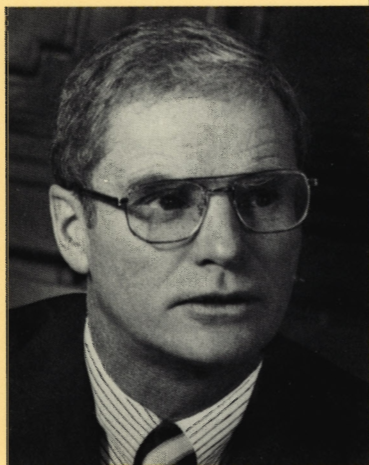
The background of the cover is a photograph of a sunset or sunrise. The sky is filled with horizontal bands of orange, yellow, and red. Two birds are silhouetted against the bright sky, flying from left to right. The horizon is a dark, flat line. The overall mood is serene and natural.

**Annual Report
Fiscal Year
1980**

New Jersey Department of Environmental Protection



Brendan Byrne, Governor



Jerry Fitzgerald English, Commissioner

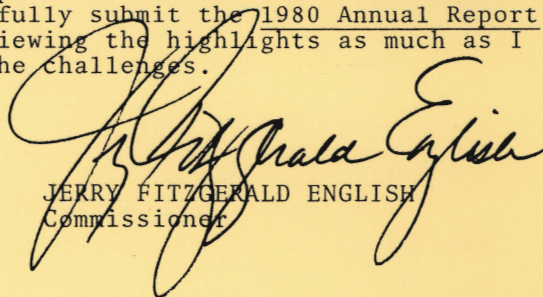


STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
JERRY FITZGERALD ENGLISH, COMMISSIONER
P. O. BOX 1390
TRENTON, N.J. 08625
609-292-2885

To The Honorable Brendan Byrne,
Governor of the State of New Jersey,
and the Members of the Legislature

This report summarizes the culmination of innovative environmental activism under your administration. During your two terms, New Jersey has set a standard of aggressive environmental policies and programs that have provided a foundation for a better future. Many of the programs, like the Pinelands, are the first of their kind in the nation. Important advances have been made in hazard management, water and air pollution control, conservation and recreation. The Natural Resources Bond Act passed by the voters in November will help the State prepare for the next decade.

Fiscal Year 1980, designated as the "Year of the Coast", represents another chapter of environmental achievements in New Jersey. I respectfully submit the 1980 Annual Report and hope you enjoy reviewing the highlights as much as I have enjoyed meeting the challenges.


JERRY FITZGERALD ENGLISH
Commissioner

On the cover—
Sunset over the Brigantine Wildlife Refuge.
Photo Credit: Thomas J. Koellhoffer



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF THE COMMISSIONER
P. O. BOX 1390
TRENTON, N. J. 08625
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April 16, 1981

Honorable Christopher J. Jackman
Assemblyman - District 33
7800 River Road
North Bergen, New Jersey 07047

Dear Assemblyman Jackman

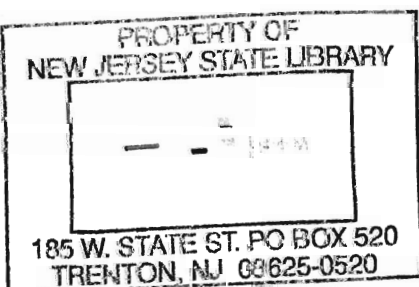
It is my pleasure to send you the attached Annual Report of the Department of Environmental Protection. This report has been prepared pursuant to N.J.S.A. 13:1D-9 (s).

Much progress has been accomplished during Governor Byrne's administration in relationship to the environmental needs of New Jersey. It is my privilege to head this unique and exciting Department and on behalf of its staff, I respectfully submit this report to you.

Sincerely,

JERRY FITZGERALD ENGLISH
Commissioner

Attachment



Environmental Highlights

Let's protect our earth



NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

- A hazardous waste strike force was organized to apprehend and prosecute illegal dumpers. Since its formation in July 1979, the strike force has handled 170 investigations resulting in 47 individuals and 25 corporations indicted or convicted.
- New Jersey lobbying efforts were successful in ensuring the passage of federal Superfund legislation which should enable the state to receive substantial funding to clean up the most serious toxic waste sites. This year, cleanup efforts were continued at Chemical Control and begun at Plumsted Township.
- The state's first groundwater quality standards were proposed and surface water quality standards were revised.
- A statewide Pretreatment Management Program to address pretreatment of industrial wastewater and the treatment and disposal of industrial residual wastes was developed. It's the first program of its kind in the country.
- New Jersey was one of the first to establish a statewide air monitoring network to assess progress of our air pollution control efforts. This year the network was expanded with seven new monitoring stations and expanded sampling capability.
- A comprehensive plan to handle nuclear plant emergencies was developed this year, putting the state in the national forefront in this area.
- A statewide Solid Waste Master Plan was developed to coordinate and oversee waste disposal policy. This year, eighteen district plans were adopted which provide for the phasing out of total reliance on landfill disposal through the development of resource recovery facilities.
- New Jersey is unmatched in terms of the state's dollar commitment per capita for the acquisition and preservation of lands. This year alone Green Acres acquisition projects preserved nearly 752 acres of land for recreation and conservation.
- Construction has begun on two major environmental facilities: the world's first Pesticide/Toxic Substances Laboratory Complex and the Pequest Trout Hatchery Natural Resource Education Center

Environmental Management and Control

Hazard Management

JAMES STAPLES, DEP



Cleanup crew at work at the Chemical Control Corporation where toxic and explosive chemicals were illegally stored. The initial cleanup effort, which began well before the April explosion, reduced its dangerous impact.

On January 7, 1980, the Office of Hazardous Substances Control was reorganized into the Hazard Management Program by executive order. This program is responsible for oil and chemical spill response, abandoned dump cleanup and overall coordination of procedures, budget and special projects for hazard management. This area has been recognized as one of such importance that the personnel to support that effort has more than doubled. During the fiscal year, the program completed eight abandoned site cleanup operations at a total cost of nearly \$300,000. In addition, over 2,000 incidents including explosions, fires, and hazardous spills were reported to the Spill Response Unit.

One of the major sites handled by the program was Chemical Control in Elizabeth. In April, 1980, a spectacular explosion and fire left 35 to 45 thousand drums on the site, many of them leaking their contents onto the ground. Prior to this fire, the Department had already removed over 500 pounds of explosives and etiological agents and over 8,200 drums.

Since that time, 40,153 drums and 250,000 gallons of contaminated liquids were removed for treatment and disposal. A groundwater decontamination system is in full operation. The cleanup cost has amounted to over \$21 million. The other major abandoned site handled by the program were several dumps in

Plumsted Township where the dumping of hazardous chemicals during the past twenty years had contaminated the groundwater supply.

During the year, under the leadership of Governor Byrne and Commissioner English, DEP lobbied very diligently and successfully in support of the proposed federal "Superfund" legislation intended to fund remedial action plans for abandoned hazardous waste sites. This Act holds the promise of being the major tool in the federal arsenal for combatting the legacy created by improperly disposed of toxic substances and hazardous waste. President Carter subsequently signed this legislation in late 1980. With its successful passage, DEP now expects to receive substantial funding to clean up the most serious toxic waste sites in the state.

Legislation amending the Spill Compensation and Control Act to more adequately deal with the cleanup of toxic waste in New Jersey was signed into law by Governor Byrne. One of the primary changes brought about by the measure is that the chemical industry will pay up to \$7 million per year to the Spill Compensation Fund, approximately the same amount which is paid by the oil industry. It allows DEP to take appropriate measures to mitigate environmental contamination before a leak of hazardous materials occurs.

Water

Many initiatives were taken in the area of water quality and water supply in New Jersey. The State's

first groundwater quality standards were proposed by DEP and surface water quality standards were

revised. In addition, the New Jersey Pollutant Discharge Elimination System (NJPDES) regulations were

(continued)

MICHAEL TALPAS, DEP



A combination of state, federal and local funding has provided New Jersey with resources to construct sewerage facilities which are essential to maintaining and enhancing water quality as our economy continues to grow.

proposed which would give New Jersey responsibility for Federal programs regarding discharges to surface and groundwater in the State. A statewide Pretreatment Management Program was also developed to address pretreatment of industrial wastewater discharged to treatment facilities, and the treatment and disposal of industrial residual wastes. This program, the first in the country, will be funded by a \$6 million grant from EPA. Finally, regulations for the Statewide Management of Septage Disposal were developed to provide a plan for adequate, environmentally-sound disposal capability.

The consultants' activities in developing the New Jersey Water Supply Master Plan were

completed. This study contains recommendations which will form the basis of the State's water supply policy for the next ten years, affecting some water supply issues through the year 2000. This plan, along with a Delaware River Basin Commission Level B Study, includes the identification of policies, programs, and projects in the areas of: water conservation and water quality, water supply, flow maintenance, flood damage reduction, maintenance of fish and wildlife, recreation, energy production, and navigation.

The State made a major investment in its environmental future with the passage of the 1980 Natural Resources Bond Act. It provides \$145 million in funds for

resource recovery systems as a viable alternative to dumping garbage, connecting our fragmented and antiquated water supply systems, clearing the state's waterfront of debris to accomplish a Riverlands Renaissance, repairing dams and continuing our significant progress in improving water quality through the construction of modern sewerage facilities.

Numerous enforcement cases were handled by DEP in order to address surface and groundwater pollution in the State. A special Emergency Response Unit is on call 24-hours a day to conduct necessary surface and groundwater sampling associated with hazardous waste site emergencies.

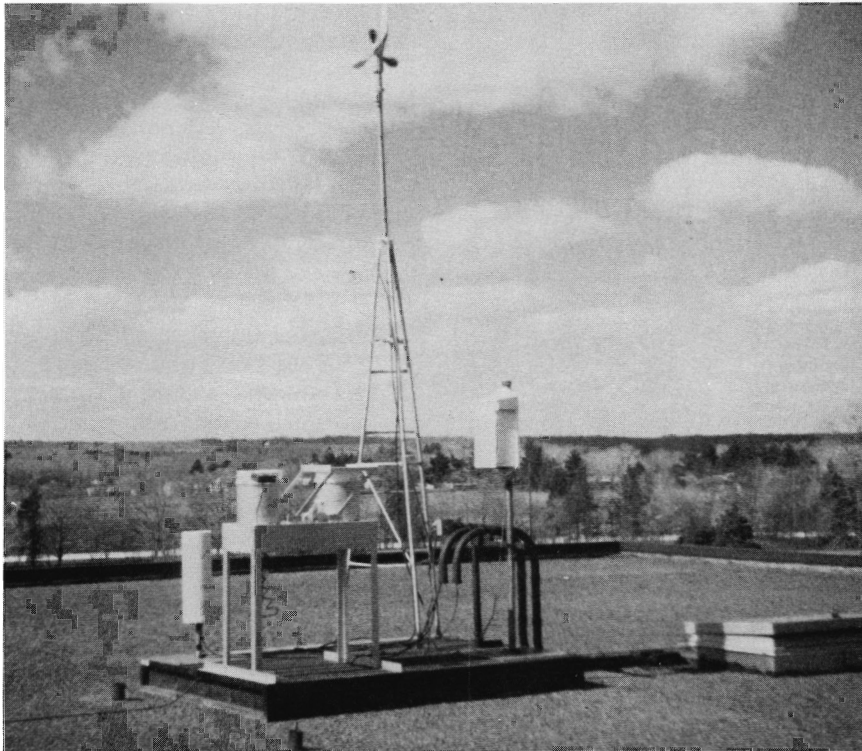
DEP also continued ongoing efforts to protect aquatic resources in the State. During the fiscal year, approximately 14,332 acres of shellfish growing bay waters in the Atlantic City area were upgraded due, in part, to the regionalization of wastewater treatment. Water quality and limnological data collection for intensive surveys on 30 lakes from 23 aquatic systems were completed under an EPA Clean Lakes Program. Completion of reports on those studies in 1981 will qualify the State for further federal funds to restore publicly owned lakes. The Biological Support Unit designated and constructed a bioassay system for installation in the completed mobile bioassay laboratory.

On September 27, 1979, DEP signed the Construction Grant Agreement with EPA beginning the transfer to the State for the responsibility to oversee the federal Construction Grants Program. An allocation of \$1 billion was designated for the construction of wastewater or sewerage facilities.

In the area of Flood Control, \$10 million was appropriated from the Emergency Flood Control Fund to match local government grants for the development and maintenance of flood control projects and to prepare a state plan and local flood control plans.

Air Pollution

RAOUL CORDEAUX, DEP



Newly installed in Princeton, N.J., this monitor tracks acid precipitation.

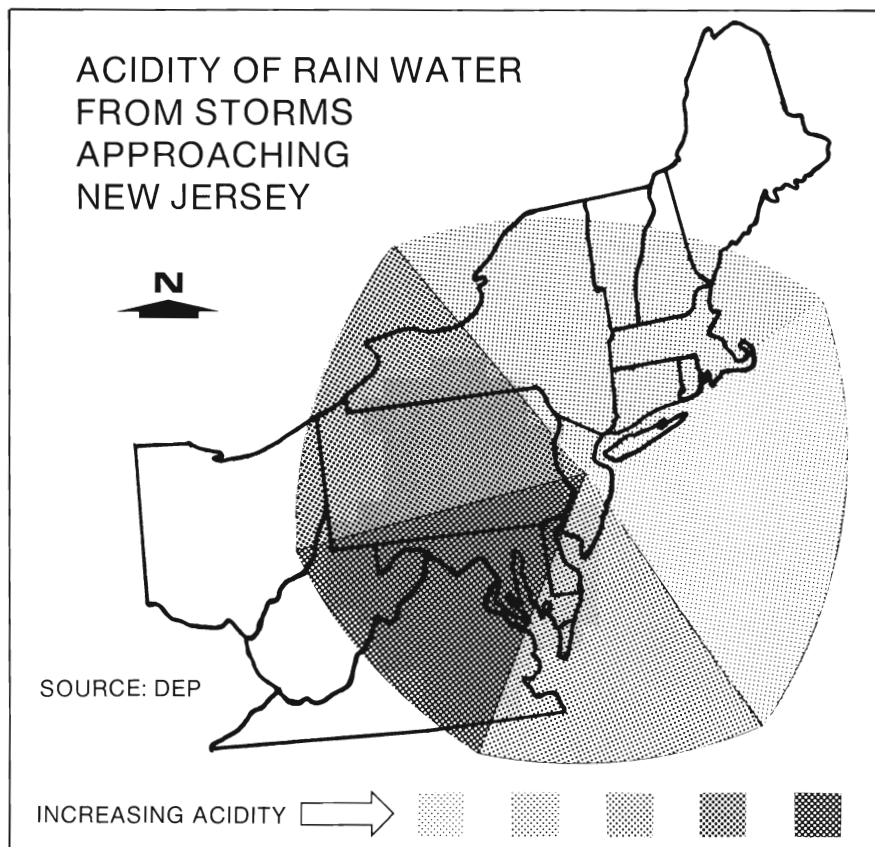
During 1980, DEP strengthened its regulatory ability to support air quality improvements. Regulations restricting the emission of volatile organic substances from existing industrial sources were implemented. At the same time, regulations restricting the emission of "toxic" organics were begun. These two regulations have already substantially reduced the amount of organic substances being emitted into New Jersey's atmosphere.

During 1980, EPA recommended approval of New Jersey's proposed regulation to allow industry to control hydrocarbon air pollution on a plant-by-plant rather than a smokestack-by-smokestack basis. New Jersey was the first state to adopt such a "bubble" regulation. Its use is expected to result in large savings for multi-stack plants while achieving the required air pollution reductions. The Department also continued to seek regional interstate strategies and basic agreement was reached to develop an interstate air pollution control strategy for coal conversion and other sulfur in fuel matters with New York. A formal agreement is expected to be entered in early 1981.

Progress was made on developing measures for the elimination of unhealthy levels of the automobile related pollutants—ozone and carbon monoxide. Work was completed on satisfying the requirements of the conditional approval by EPA of the 1978 State Implementation Plan (SIP) revision for those pollutants. A transportation/air quality planning process was established at the county level, and progress was made on emission inventories and air quality analysis needed for the next SIP revision. SIP revisions were also developed for particulates, lead, prevention of significant deterioration, and visibility.

The statewide air quality monitoring system, which records the level of exposure to air-borne pollutants, was adapted to identify

(continued)



Air Pollution *(continued)*

and measure more types of pollutants. Seven monitoring locations were added to the network of continuous monitors for gaseous pollutants, and five more samplers were added to the particulate monitoring network. A quality assurance program was also developed for the monitoring network.

Air quality reviews of over 100 facilities and projects were carried

out in accordance with environmental laws and policies. About two-thirds of these were facilities requiring Coastal Area Facility Review Act (CAFRA) permits, including casinos and related facilities in Atlantic City and over 50 large housing developments in the coastal area. Several projects were related to the program for the conversion of electrical generating stations in the

metropolitan Philadelphia and New York areas from fuel oil to coal.

Significant enforcement actions were also levied during the year. For example, the signing of a consent agreement with N.L. Industries and EPA containing penalties totaling \$1.1 million marked the culmination of the first joint enforcement action against a company by DEP and EPA.

Radiation Protection

The Bureau of Radiation Protection has been in the forefront nationally in developing comprehensive plans to handle nuclear power plant emergencies. A major restructuring of the New Jersey plan occurred during the year. The plan includes all elements of a comprehensive nuclear emergency response including: public notification and emergency communication procedures, evacuation and sheltering actions, protection of food supplies, and decontamination plans for people and property exposed to excess levels of radiation.

DEP has continued its efforts to develop its emergency preparedness program in three areas: training, equipment, and response. More than thirty training courses were presented to health sanitarians, fire departments, rescue squads, hospitals, and police departments on the handling of radiation accidents and hazardous materials. Furthermore, a formally structured, week-long training course for all DEP

Emergency Response personnel has been established. A wide range of lectures and practical exercises provide "hands-on training" in such areas as air monitoring, meteorology, radioactivity, water sampling, evidence control, protective clothing, respiratory equipment and team leadership. This course has been acclaimed as one of the finest in the nation.

A department-wide emergency communications network has been implemented, using a radio repeater tower system, paging equipment, and unified communications plan. In addition, the procurement of portable monitoring and analysis equipment has dramatically improved the Department's "on the spot" analysis of hazardous materials at the site of chemical fires, explosions, and releases.

The Bureau has also been actively involved in the decontamination of sites used for the disposal of radioactive waste. These sites were created in the late 1940's and early 1950's as a result of the "Manhattan Project" to

develop the A-Bomb. The Department handled the first major remedial action project of this type in the nation, with the help of the United States Department of Energy (DOE). To date, DOE has spent several million dollars on remedial action activities in New Jersey.

The cleanup of 32 such parcels of private property is progressing in Middlesex Borough. Five of these sites were decontaminated in 1980 and the remainder will be completed in 1981. In addition, two parcels at the Kellex site in Jersey City were completely decontaminated in 1980 and one was certified for unrestricted use. Other activities included completion of a project to measure radon levels in homes in the vicinity of the contaminated sites in Middlesex, and the establishment of an environmental surveillance program in the community. A report on a former radium processing plant in Orange was also completed and a similar project in New Brunswick was initiated.

Solid Waste

Highlights of the year included the adoption of more than 18 District Solid Waste Management Plans, providing for the long-term phasing out of a total reliance on landfill disposal through the development

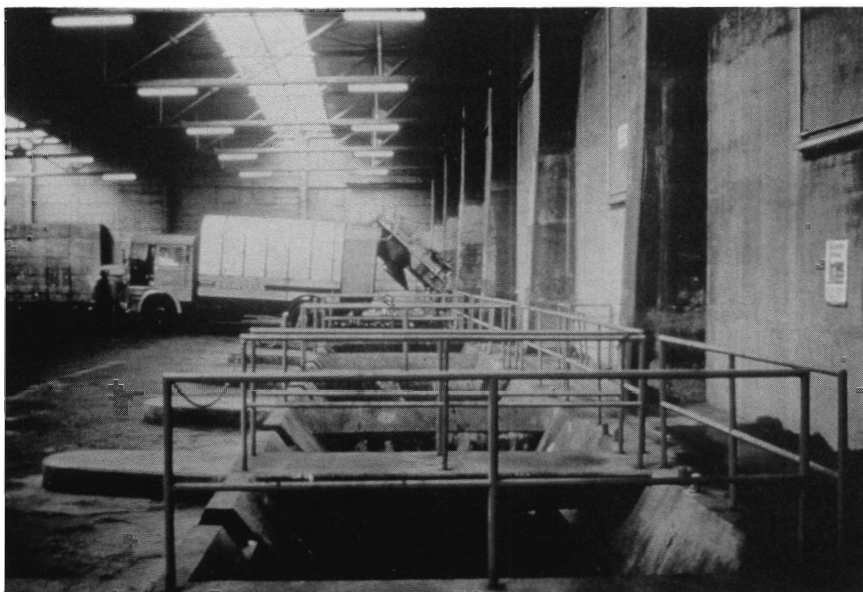
of material and energy recovery programs. Commissioner English awarded \$90,000 in matching grants to the Solid Waste Management Districts for resource recovery implementation planning.

Also, a \$50 million allocation for resource recovery projects was included in the 1980 Natural Resources Bond Issue. During the year, applications for three resource recovery projects were accepted for

(continued)

Solid Waste *(continued)*

DEP



Solid Waste Management Plans are being adopted in New Jersey which will reduce our reliance on landfills and maximize energy and resource recovery facilities.

review. In addition, nine applications for the land application of sludge, septage, and food

processing wastes were approved while four similar applications were denied for environmental reasons.

A number of strong hazardous waste initiatives were also undertaken. The Governor established a Hazardous Waste Advisory Commission in recognition of the need to deal with a myriad of current and future hazardous waste management issues. The commission's report recommended increased enforcement, better facility siting and the establishment of an appropriate institutional structure to ensure that needed disposal facilities are built. In response, a contract was established with the Delaware River Basin Commission to develop criteria for facility siting and legislation was drafted to provide a mechanism for future siting. DEP developed a set of state level regulations to control the handling of hazardous waste. And, according to a legislative mandate, weekly inspections of certain hazardous waste management facilities are now made by the Department.

In December 1979, Governor Byrne invited the governors of seven northeastern states to join with New Jersey in developing a manifest system. This effort will provide information on hazardous materials from its place of origin to its disposal within the northeastern region.

More than two thousand investigations of violations of the Department's rules and regulations concerning the disposal of solid waste were made. Administrative orders were issued for the closure of certain solid waste facilities including the Jackson Township Landfill.

Noise Control

As part of its ongoing effort to cooperate with local governments in noise control activities, the Office of Noise Control has established an annual training course for local officials held in cooperation with Cook College. In addition, the

Department was again awarded an ECHO Grant (Each Community Helps Others) from EPA to assist local governments in implementing local noise control programs. The DEP was awarded another EPA grant to expand its demonstration

project for an on-road motor vehicle enforcement strategy. During the year, numerous inspections were conducted resulting in over 200 violations affecting 82 communities.

Pesticide Control

CLIFF MOORE, PHOTO JOURNALIST



In May 1980, the official ground breaking ceremony was held for the new Pesticide/Toxic Substances Laboratory Complex. A 25,000 square foot building is planned, containing administrative offices, training facilities, field inspector offices and sophisticated laboratory support capabilities. This new facility will be a significant addition to the Department's analytical capability and make possible the expansion of many DEP programs.

Certification and registration activities continued during the fiscal year. Numerous pesticide product registrations were filed under the provisions of the N.J. Economic Poison Act. Thousands of private and commercial applicators, applicator businesses, and restricted pesticide dealers were also registered in the State.

DEP Commissioner Jerry Fitzgerald English and Jan Geiselman from EPA break ground for the world's first Pesticide/Toxic Substances Laboratory Complex near Trenton. Looking on is George Beyer, Chief of the Office of Pesticide Control.

Parks

Park attendance for Fiscal Year 1980 was 6,133,927, a 15 percent increase in the number of visitors over last year. Contributing to this increase was an expanded summer cultural and arts program in the state parks.

The Homeowners Firewood Program, in which New Jersey residents can chop wood in areas

designated by the Bureau of Forest Fire Management, has increased in popularity as homeowners have turned to fireplaces and wood-burning stoves to help heat their homes. During this fiscal year approximately 4,500 cords of wood were collected at state parks and forests.

The continuing program to

upgrade state facilities administered by the Division included construction and improvement projects at Stokes State Forest, Spring Meadow Golf Course in Allaire State Park, and the Walt Whitman House.

This year, 89 agencies—municipalities and nonprofit organizations—were granted a total
(continued)

Parks *(continued)*

BARRY LEILICH, DEP



Visitors to New Jersey's State Parks enjoyed free performances of theater, dance and music last summer. Liberty State Park continued to be the premiere attraction and was the scene of the Governor's Ethnic Festival.

of \$460,000 through the Youth Recreation Opportunity Project to carry out summer programs serving 94,257 youth throughout the state. The purpose of this program is to ensure that inner-city youngsters are afforded the opportunity to enjoy summer trips to state parks, forests, recreational areas and other places of cultural enlightenment.

The Youth Conservation Corps program this year enrolled 514 young people, 15 to 18 years old, for employment on approved environmentally-oriented projects. The program funded at a level of \$935,000, was carried out at 22 camps in state parks and forests, and at 10 camps administered by selected county government agencies.

Development at Liberty State Park, which started in February 1976, has continued to convert the Jersey City shoreline to the true gateway of the nation. The recreation area has expanded to include almost 200 acres, and by 1985, at least 750 acres of land should be completely developed as a total park. One of the greatest features of Liberty State Park will be the development of Liberty Walk, a broad, paved one and a half mile promenade. This feature, which will take two years to complete, will provide access for water oriented recreational activities and harbor views.

Forestry

The Bureau of Forest Management provided assistance to 1,136 private forest landowners. At the request of the owners, management plans were prepared encompassing 33,052 acres. Other accomplishments on private lands include: 520 acres reforested; 9,056 acres prescribed for burning; and

sawtimber and pulpwood were sold, producing an income of \$784,000.

In the recently initiated Tree Improvement Project, foresters are working to develop "super trees" for future forests. In 1980, the State Forest Seedling Nursery produced almost 700,000 seedlings for reforestation in New Jersey. These

improved trees will grow faster and be healthier than average sources.

The State Forestry Services began the process of developing a long-range Statewide Forest Resource Plan. With the aid of public groups, the plan will assess the products and benefits of New Jersey forests and develop the

(continued)

Forestry (continued)

GEORGE TIEDEMANN, ASBURY PARK PRESS



The severe drought provided conditions for an extremely dangerous forest fire year.

strategies and programs to achieve the resource goals.

The drought condition, that has persisted since May, was a primary factor in the high incidence of wildfires which occurred during the year. There were only three months which had normal or above normal precipitation. A total of 2,325 fires burned 10,943 acres on a statewide basis. This represents the third highest year for fire ignition since record keeping began in 1906.

A Fire Management Plan for the Pine Barrens was completed. The plan identifies wildfire hazard areas and provides a rating system. Recommendations for fire management and fire safety standards for developments were offered.

Coastal Resources

ROBERT PERRON



The Shore Protection Master Plan addresses the alternatives for coastal development and preservation of New Jersey's coast including the protection of this barrier beach community, Strathmere at Corson's Inlet.

Governor Brendan Byrne joined President Carter's national celebration by proclaiming 1980 to be the Year of the Coast in New Jersey. The year saw a series of coastal celebrations and meetings including a conference on the Future of the New Jersey Shore in

September, a Beach Walk on Sandy Hook and the first illumination since 1964 of the Absecon Lighthouse built in 1857. These initiatives which recognized the importance of our coastline illuminated one of the Department's major goals—a federally approved Coastal

Management Program for the Atlantic, Delaware River and Raritan Bay shoreline.

DEP awarded eleven Local Coastal Grants totaling \$196,000 to municipal and county governments for planning projects to enhance the waterfront. Plans were developed for waterfront parks, bikeways and commercial revitalization, including a plan for a series of ten waterfront parks linked by a 20-mile bikeway along the Delaware River in Burlington County.

Almost \$300,000 in revenues were collected for the State through the issuance of 393 permits for approved waterfront development, CAFRA and wetland construction projects which, in turn, generated millions of dollars worth of construction throughout the coastal areas of the State. Approval for the construction of five new casinos in Atlantic City were among the permits issued during this period. Furthermore, over \$3 million in revenues were generated for the State through the sale of grants, execution of leases and licenses and collection of rent and royalties for the approved use of State-

(continued)

Coastal Resources *(continued)*

DEP



DEP provides local coastal grants to fund dune preservation programs. In this project, dune grasses have been planted to prevent beach erosion.

owned tidelands.

As part of the Coastal Enforcement Program, over 600 inspections of construction projects on coastal land areas under State regulation and control resulted in

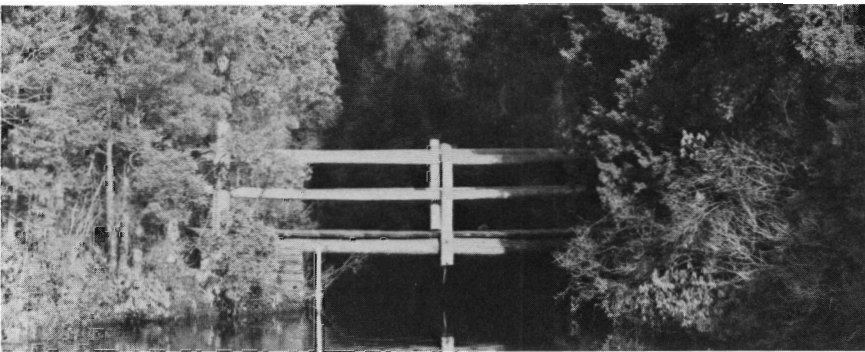
the detection of 143 violations. The Marine Police responded to an increase in larcenies of boats, engines and marine equipment by recovering over a half million dollars of stolen property.

Coastal Engineering initiated fourteen shore projection projects, involving the reconstruction of beaches, dunes, bulkheads and jetties, at a total cost of \$6.2 million, all of which were funded equally by the State and the local municipalities in which they were located. Over two miles of navigation channels were dredged.

The Office of Environmental Analysis is implementing a seven year Tidelands Delineation Program on behalf of the Tidelands Resource Council as mandated by N.J.S.A. 13:1B-13.2 *et seq.* After seven years of discovery and trial procedures, the New Jersey Supreme Court upheld lower court decisions that the mapping effort was fulfilling the statutory mandate. During FY 1980, tidelands claims for 200 photomaps were prepared. These maps encompass an area of 300 square miles from the New Jersey border through Monmouth County and parts of Ocean County.

Pinelands

CAROL NASH



Under Governor Byrne's direction, a comprehensive management plan to protect and preserve New Jersey's Pinelands was developed this year. Pictured is a walk bridge at Bass River State Park in the Pinelands.

One of Governor Byrne's primary legislative initiatives was to ensure the protection and preservation of the ecologically-unique New Jersey Pinelands. A state plan was implemented this year for the state's 1.1 million-acre forest region. The Pinelands Management Plan

acknowledges the need to protect the area's fragile natural resources while providing for suitable development in areas that can most easily accommodate growth. The Plan delineates land use categories and specifies management programs, development standards

and ways of preserving the essential character of the pinelands.

The Department established an Office of Pineland Acquisitions. This year, the office handled the largest land purchase for preservation which included 8,441 acres of lands in West Plains Pygmy Forest. The area links Greenwood Forest Wildlife Management area to Penn State Forest which contains an ecologically-unique dwarf pine forest. Almost 300 acres of land were added to the existing Double Trouble State Park which protects a branch of Cedar Creek. Cedar Creek is part of the Wild and Scenic Rivers Program and was noted as the purest of all free flowing waters in the State. And finally, 1,065 acres were added to Wharton State Forest encompassing land in the Batsto River Headquarters and land in the Bulltown area.

Green Acres

During 1980, 62 local Green Acres projects were approved totaling \$17,144,895. Of this, 77% was committed to municipal and county development projects ranging from neighborhood playgrounds to major urban waterfront developments.

Acquisition projects approved during the year preserved nearly 752 acres of land for recreation and conservation. Projects in which land purchases were completed include the Allaire Golf Course, Six Mile Run Reservoir, Manasquan Reservoir, and Black River. Other nationally significant projects which are still underway include the Appalachian Trail and Liberty State Park, which emphasize the

importance of land purchases by the state in urban and non-urban areas.

The Fiscal Year 1980 Land and Water Conservation Fund apportionment to the State of New Jersey, which totaled \$9,000,000, was obligated to locally sponsored development projects in Bridgeton's City Park, the Camden Waterfront, the purchase of lands at Liberty State Park and in the Pine Barrens' Preservation Zone.

The Urban Neighborhood Environmental Assistance Program provided funds to ten urban aid cities and/or depressed rural centers to rehabilitate and enhance the physical environment. In all, the grants totaled \$87,294. The scope

of these projects varied from streetscaping to historic preservation to mini-park development.

Planning within the Recreation and Heritage Planning Section focused on the development and implementation of new and existing programs including: preparation of an Action Plan; furthering of Heritage Planning activities; preparation of a Natural Areas Management Plan; an inventory of trails throughout the state; preparation of draft river designation studies; and the completion and adoption of rules concerning the administration of the New Jersey Wild and Scenic Rivers System.

Fish, Game and Wildlife

HARRY GROSCH



Governor Byrne and Commissioner English participate in opening day of trout fishing on the Flatbrook. Retrieving the Governor's trout is Jim Stabile of the Department of Corrections and looking on is Robert Mulcahy, N.J. Sports and Exposition Authority.

The Marine Fisheries and Management Act, signed into law by Governor Brendan Byrne on September 19, 1980, expanded the fisheries activities of the Division. Two new bureaus were created, the Bureau of Marine Fisheries and the Bureau of Shellfisheries. The law also changed the Division's name to the Division of Fish, Game and

Wildlife to better describe its scope of responsibility.

The Bureau of Shellfisheries reported that the annual clam relay program in Fiscal Year 1980 saw nearly 4.4 million hard clams moved to clean water lots. Oystermen removed 434,000 bushels of seed oysters from state seed beds for planting in leased waters. A total of

36,400 acres of shellfish growing lands were leased by the bureau. More than 21,000 commercial and recreational clam licenses and oyster and sea clam dredging and crabbing licenses were issued.

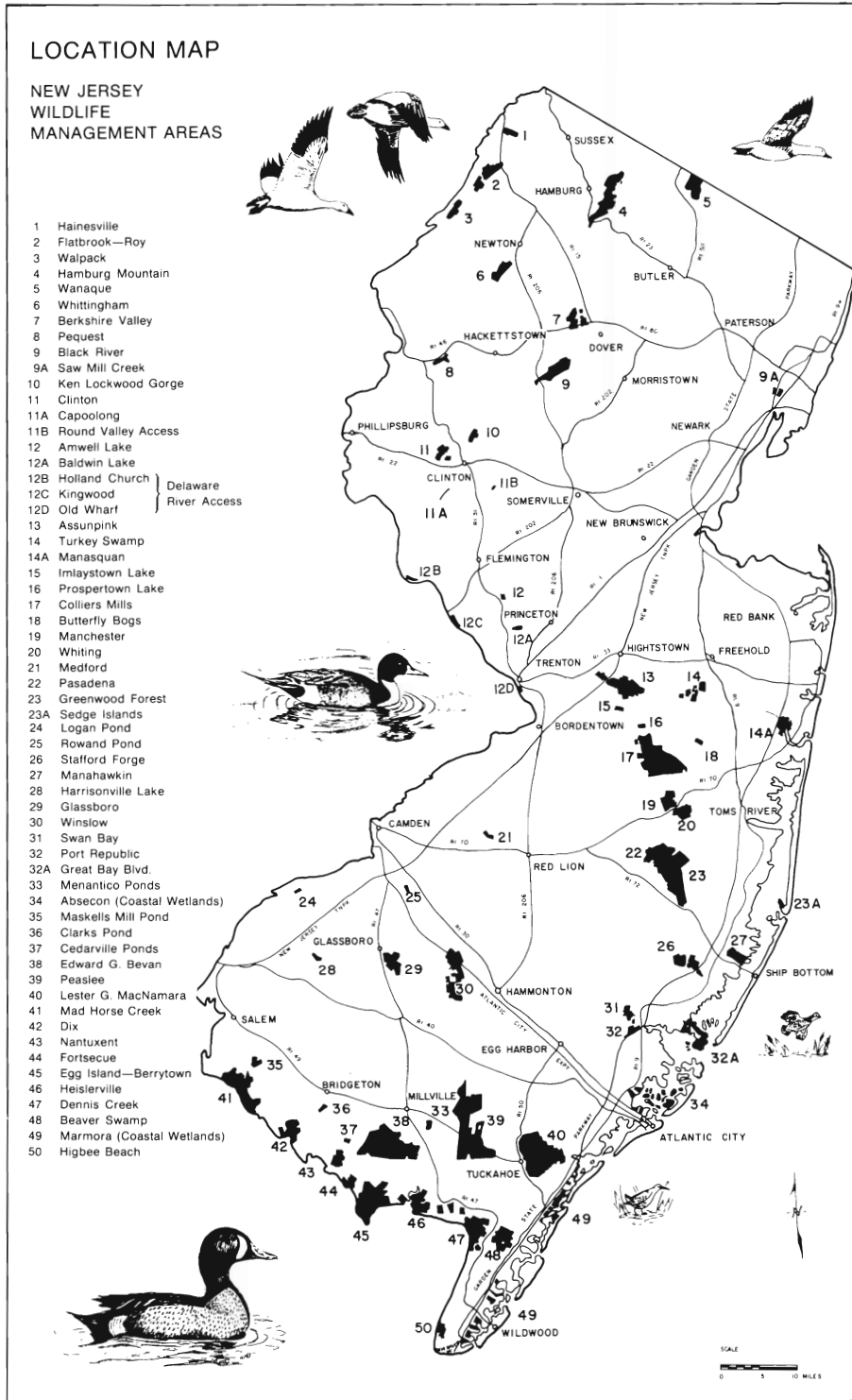
The Division's Bureau of Freshwater Fisheries released 582,000 trout, all of them above minimum catchable size, in New Jersey public waters. More than 500,000 of these were reared at the State Fish Hatchery and the rest in federal hatcheries. A total of 3,175 largemouth bass, 2,960 bluegill, 6,550 channel catfish, 4,770 striped bass and 4,345 tiger muskies made up the warm water stocking program during the fiscal year.

Construction began on the new Pequest Trout Hatchery-Natural Resource Education Center in March 1980. The hatchery is designed to produce 600,000 catchable-sized trout annually. The completed project will provide recreational and educational services to over a million New Jerseyans.

The Bureau of Marine Fisheries is participating in a federally funded project to determine why the striped

(continued)

Fish, Game and Wildlife *(continued)*



The 150,000 acres of Wildlife Management Areas are diversified in terrain ranging from coastal marsh and wetlands to mountains, providing habitat for the various species of the state's wildlife. While dedicated primarily to the use of the state's wildlife resources they also provide opportunities for many other outdoor oriented recreations, compatible with wildlife management.

bass population has declined along the Atlantic coast and to study methods of reversing the trend. Among other research projects carried on this year was one concerning the commercial harvest of lobsters in New Jersey.

New Jersey hunters bagged an estimated 421,000 pheasants, 519,000 rabbits, 118,000 quail, 34,000 grouse, 175,000 squirrels, 59,000 woodcock, 5,300 clapper rail, 13,000 snow geese and 199,000 ducks. Small game and waterfowl hunting generated 1,436,000 days of recreation. A record total of 16,106 deer were harvested. The estimated value of the 1979-80 fur harvest to trappers was \$4.9 million.

The Endangered Species Program accomplished major advances in the management of state and federal endangered species. As a result of five years of reintroduction of captive-bred peregrine falcons, two adult pairs bred and fledged six young. This is the first time since the early 1950's that peregrine falcons have bred successfully in the wild, east of the Mississippi. Osprey nesting, encouraged by the erection of osprey nesting poles, increased from 50 nests in 1974 to 89 in 1980.

The reintroduction of bobcats into their former habitat in the state's northern woodlands continued this year with the release of 14 animals, which were trapped in Maine. The wild turkey count in fiscal year 1980 was more than 1,000 birds occupying a range of nearly 300 square miles—this restoration program began only four years ago.

More than 150 teachers took part in the annual wildlife education programs sponsored and conducted by the Division. In addition, as the result of a federal grant, the Division prepared and distributed three wildlife-conservation oriented guides for elementary and secondary school teachers.

Science and Research

NEW JERSEY OFFICE OF PUBLIC COMMUNICATIONS



Researcher applies a water sample to an extraction column in order to identify the type of chemicals in the sample.

The Office of Science and Research is responsible for the identification and evaluation of environmental health risks, and for the development of new cleanup and enforcement technology. The Office of Cancer and Toxic Substances Research (OCTSR), the largest component of this program, seeks to protect the health of New Jersey's citizens by reducing exposure to toxic and cancer-causing substances in the environment.

OCTSR conducted a statewide program of measuring toxic and carcinogenic substances in groundwater, surface water, and drinking water during the year.

Samples from more than 500 wells were analyzed for about 50 toxic substances. Detection of groundwater contamination led to the closing of wells in Rocky Hill and West Amwell. Another OCTSR program is studying the ability of the Ames assay to detect mutagens in environmental samples. The Ames assay is an inexpensive biological test in which bacteria indicate the presence of gene-altering chemicals, or mutagens; many cancer-causing agents are known to be mutagenic. The Ames assay was employed to examine water samples from the Delaware, Raritan and Cooper River systems, as well

as air particulate samples from several communities. Results are expected to help New Jersey determine which environmental pollutants may cause adverse health effects.

The OCTSR Industrial Survey is a statewide project which seeks information from approximately 15,000 industries about the production, use, and disposal of 155 carcinogenic and toxic chemicals. Questionnaire response and emissions monitoring will help the state identify potential health problems, set priorities for regulating toxic substances, and enforce pollution laws. Mailing of the questionnaires began in January 1980.

The Office received a National Cancer Institute grant in 1979 for a three-year program to assemble a data bank of environmental information. The first year's work dealt largely with drinking water supplies; its immediate purpose is to support a national study of the possible contribution to bladder cancer by waterborne chemicals. The overall objective of the program, however, is to provide New Jersey with a comprehensive data base that will improve understanding of the complex relationships between cancer and the environment. As part of the study of these relationships, OCTSR began planning a program of computer mapping and geographic analysis.

In March 1980, OCTSR received an award of \$1.2 million from EPA for five projects: a study of mercury contamination in the Hackensack Meadowlands, emissions monitoring for the Industrial Survey, assessment of ecological effects of contaminants in water, field application of the Ames assay, and expansion of the Toxic Substances Information Resource Center. The grant amounted to 55% of all money awarded by EPA's Office of Toxic Substances. Such projects will enhance the ability of DEP to protect New Jersey's environment and public health in the 1980's.

Cultural and Environmental Services



These distinctive late 19th Century rowhouses were listed on the National Register in 1980 as part of the Van Vorst Historic District in Jersey City.

The Office of Cultural and Environmental Services is responsible for the identification and preservation of historic property and for coordinating environmental impact statements and Departmental permits.

The Historic Preservation Section administers two grants-in-aid programs, one for survey and planning, the other for acquisition and development of properties listed on the National Register. The survey and planning program is designed to assist New Jersey communities in preservation planning. In fiscal year

1980, 36 survey and planning grants totalling \$443,141 were awarded for historic sites surveys, State and National Register nominations, historic structures reports, restoration and adaptive use studies, and related preservation planning projects. County surveys to identify properties of potential historical, architectural or cultural significance are underway in Bergen, Union, Ocean, and Monmouth Counties. Among the municipalities conducting surveys are Camden, Jersey City, Morristown, Trenton, and East Orange.

The acquisition and development grants program provides matching funds for the acquisition, protection, or rehabilitation of properties listed on the National Register. Seven grants totalling \$344,764 were awarded to municipal and private applicants. Projects were funded for the restoration of "Lucy," the Margate Elephant; restoration of the Barclay Farmstead, Cherry Hill; restoration of several houses and a cathedral in Newark; and, rehabilitation of a former railroad terminal for use as a Senior Citizen Center in Trenton.

The Historic Preservation Section also prepares and processes register nominations throughout the state. During the year, 39 individual properties and 12 historic districts were added to the National Register. Additional properties were added to the State Register, including a thematic nomination of 205 early stone houses in Bergen County, representing an important regional building type. It was the first thematic nomination listed on the State Register.

The Office of Environmental Review has responsibility for coordinating the review of all environmental impact statements issued under the provisions of the National Environmental Policy Act. Under the authority of an executive order, DEP also has jurisdiction to assess the environmental impact of state-sponsored projects as well as major projects within the private sector. This Office has been particularly involved in mandated assessments involving the N.J. Highway Authority and the N.J. Sports Complex in the Hackensack Meadowlands.

The Office is also responsible for a Department-wide permit coordination effort aimed at developing more efficient coordination between federal and state agencies on projects under joint authority. The overall purpose of this effort is to streamline the permit process and expedite project decisions that involve several state and federal approvals.

The Office of Inter-Governmental Operations prepares and secures the advancement of legislative initiatives at the state and federal level. During the year, the Legislature passed a Natural Resources Bond Act which included funds for sewerage facilities, resource recovery facilities, reconstruction of unsafe dams, water supply interconnections and harbor cleanup.

The Legislature also passed major legislation recommended by this administration providing for the taxation of the chemical industry to clean up abandoned sites and the authorization of criminal penalties for the violation of the state's hazardous waste statutes. It also passed major legislation authorizing the department to regulate land use

in flood hazard areas and to construct flood control facilities in major river basins.

The administration spent the major part of 1980 developing and introducing a major legislative program for enactment during 1981. It includes bills on hazardous waste siting, the water supply crisis, solving the solid waste and recycling conundrum, radiation protection, Hudson River Development, and dune and beach protection.

An Administrative Order created the Office of Public Participation in April 1979. The purpose of the Office is to involve and respond to the desires of the public in managing and protecting the environment in New Jersey. The primary objectives of public participation are to estab-

lish clear lines of communication between environmentally concerned citizens and the department; and, to create new options by encouraging public innovation in developing solutions to environmental problems.

The Office of Enforcement coordinates enforcement activities of the Department that cross or overlap DEP jurisdictional boundaries. The Office prosecutes a variety of cases involving water pollution at or near landfills, hazardous cleanup or illegal dumping, sewage treatment or sludge disposal, and other cases having the potential for significant effects on human health, wildlife or natural resources.

Environmental Litigation

Environmental litigation in Fiscal Year 1980 was highlighted by many significant legal precedents, particularly in the area of hazardous waste. In a cooperative effort with the Department, the Attorney General's Office handled many important legal cases during the year. The most significant classes are highlighted below.

State v. Ventron Corporation

DEP successfully prosecuted past and present owners of a 40 acre tract of land in Bergen County. The land had been contaminated with 300 tons of mercury which was and is polluting the environment, particularly in Berry's Creek. The court's decision obligated the owners and operators of the facility to remedy the situation. This matter is presently on appeal.

State, DEP v. Chemical Control Corporation

The court determined that the Chemical Control Corporation vio-

lated various environmental laws pertaining to solid and hazardous waste disposal and water quality during the period it operated its facility in Elizabeth. By virtue of this action, the company was permanently enjoined from conducting any waste disposal operations at the site, all corporate assets were frozen, management was ejected from the facility and a receiver was appointed to oversee the remedying of all violations at the site as well as the resulting environmental degradation. Subsequent cleanup of the site is nearly completed.

State, DEP v. Jackson Township

DEP filed suit to enjoin operations at the Jackson Township landfill and to bring about a cleanup of the site. The landfill had been heavily contaminated with chemical pollution and a large number of residential wells in the area were contaminated. This action resulted in a restraining order closing the landfill and

requiring the defendants to cover and grade the site.

DEP and PUC v. Kin-Buc, Inc.

In this case, many years of protracted negotiations finally led to an agreement for a comprehensive plan for the environmentally sound closure of the massive chemical dump site in Edison Township. During the litigation, Kin-Buc was forced to discontinue chemical dumping and determine appropriate measures to seal the old landfill and monitor contaminants from the site.

N.J. Builders v. Byrne

The Attorney General's Office assisted the Governor's Office in preparing a moratorium on building in the Pinelands and defending subsequent legal challenges to the order.

Little Falls Township v. Bardin

This case upheld DEP's right of preemption of local land use controls involving the siting of landfills.

(continued)

Environmental Litigation *(continued)*

City of Newark v. Natural Resources Council

This case concerned the long-standing dispute over claims to the ownership of the State's tidally-flowed lands. The court's decision upheld the validity of claims maps

the State had prepared which depicted its purported ownership of property in the Hackensack and Newark-Elizabeth Meadowlands.

Burlington Environmental Management Services v. DEP

The Appellate Division upheld the

Department's interdistrict wasteflow regulations. This marked the beginning of an active effort to enforce and defend the solid waste management plan.

Public Participation

This year, for the first time, a general assembly was held of all the members of the various boards, councils and committees that advise the Department. The purpose of this meeting was to recognize the dedicated citizens that assist and advise DEP in carrying out its diverse statutory functions. There are 35 active operating groups. Three advisory groups were formed this year to advise the Governor and the Commissioner on major science, labor and business-related issues. The Science Advisory Committee was formed to provide

technical expertise on important scientific issues. The Labor Advisory Committee, comprised of various labor leaders, provides advice on the many projects that require the cooperation of government and organized labor. The Business Advisory Committee is comprised of distinguished representatives of the state's business sector and advise ways to mutually promote economic development and environmental progress within the state. Another broadly based citizens committee was formed to work for the passage

of the Natural Resources Bond Issue.

A unique concept of public involvement was initiated with the innovative circuit riding program. During the year, Commissioner English scheduled a series of meetings in Morris, Cape May, Middlesex and Camden counties with Departmental officials, county and municipal representatives and citizens of the area to discuss environmental issues of local importance.

Management and Budget

Management and Budget administers the Department's capital improvement program and provides general support services including personnel, payroll, budgeting, accounting, purchasing, data processing, printing, training, auditing, word processing, program evaluation and property control.

Several capital improvement projects were initiated at Liberty State Park including a dedication of the first solar-powered photovoltaic air-monitoring station, the Bulkhead Anchorage Project and the roadway

portion of Phillips Drive. Other completed construction projects include the Pequest Trout Hatchery-Natural Resource Education Center and the Assunpink Mini Park in Trenton.

Several Departmental responsibilities were coordinated and centralized within the Division of Fiscal and Support Services this year. A 24-hour Emergency Response Network was established to consolidate all radio communication required for environmental emergencies. Also a Standard Application Form was established for all

departmental permits required under the Ninety Day Law. Governmental agency mapping and aerial photography needs were also coordinated in response to the Governor's Executive Order.

Fee and collection activities continue to be centralized here resulting in cost savings. Almost 50,000 transactions were processed for a dollar value of \$1.7 million, a substantial increase over previous years.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
1980 FISCAL YEAR
JULY 1, 1979-JUNE 30, 1980
APPROPRIATIONS AND EXPENDITURES SUMMARY**

APPROPRIATIONS

State Appropriation	\$85,108,838	
Trust Fund	63,793,314	
Federal Revenues	<u>19,074,198</u>	
SUB-TOTAL		\$167,976,350

APPROPRIATED REVENUES*

Water Fees & Charges	\$ 1,697,500	
Licenses & Fees	5,010,814	
Other Sources	451,456	
Publication & Sales	<u>415,730</u>	
SUB-TOTAL		<u>\$ 7,575,500</u>

TOTAL REVENUES		<u><u>\$175,551,850</u></u>
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EXPENDITURES

General State Operations	\$38,011,910	
State Aid	2,157,623	
Capital	866,221	
Federal	19,074,198	
Dedicated & Special	<u>3,198,755</u>	
SUB-TOTAL		\$ 63,308,707

TRUST FUNDS

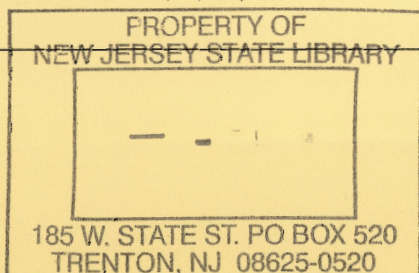
State Rec. & Conservation Land Acq. Fund-1961	\$ 25,475	
State Rec. & Conservation Land Acq. Fund-1971	525,764	
State Rec. & Conservation Land Acq. Fund & Dev. Fund-1974	49,408,549	
State Land Acquisition & Development Fund-1978	6,654	
State Water Development Fund-1958	84,154	
Water Conservation Fund-1969	9,058,006	
Clean Waters Fund-1976	1,567,232	
Emergency Flood Control Fund-1978	56,654	
Beaches & Harbors Fund-1977	<u>3,060,826</u>	
SUB-TOTAL		\$ 63,793,314

DEBT-SERVICE

Interest	\$25,704,829	
Principal	<u>22,745,000</u>	
SUB-TOTAL		<u>\$ 48,449,829</u>

TOTAL EXPENDITURES		<u><u>\$175,551,850</u></u>
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*Does not include revenues deposited in General Treasury in the amount of \$10,733,782



Editing: Carol Tomson with Dottie Correnti, Delight Holt, Edi Joseph and Dianna Rogers-Ross
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