Let's protect our earth

ANNUAL REPORT

FOR FISCAL YEAR 1977

(JULY 1, 1976 TO JUNE 30, 1977)

NEW JERSEY

DEPARTMENT OF

ENVIRONMENTAL PROTECTION

BRENDAN BYRNE
GOVERNOR

ROCCO D. RICCI
COMMISSIONER

LIBERTY AND PROSPERITY
1776

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF THE COMMISSIONER
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March, 1978

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

Herewith is submitted the Report of the Department of Environmental Protection for the fiscal year 1977.

Respectfully,

Rocco D. Ricci

Rocco D. Ricci, P. E.
Commissioner

STATE OF NEW JERSEY

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Annual Report
Fiscal Year 1977

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INTRODUCTION

The duty of the New Jersey Department of Environmental Protection (DEP) is to promote the public health and welfare by preserving natural and cultural resources, guarding and enhancing the physical environment made up of air, land, water and the biological populations which share them and providing a wide spectrum of outdoor recreational opportunities. These obligations are fulfilled through licensing, monitoring, registration, regulatory and inspection activities.

The Department manages 417,888 acres of state owned parks, forests, wildlife and reservoir lands and administers the Green Acres Program through which open space and recreational land are purchased and improved. The Coastal Area Facility Review Act is administered by the Department to protect a wide area of the state bordering the Atlantic Ocean and Delaware Bay. The Department also administers the Wetlands Act, to guard nearly a quarter-million acres of coastal wetlands from degradation and loss. State ownership of riparian lands, those flowed now or in the past by mean high tide, is administered by the Department. DEP also administers the federal sewer construction grant program.

In the regulatory area, the Department oversees supply and quality of water, development in flood plains, air quality, including checking auto emissions in cooperation with the Division of Motor Vehicles, landfill operation, radiation devices and pesticides. It licenses hunters, fishermen, trappers and shellfishermen.

SPECIAL ENVIRONMENTAL ISSUES

Environmental Cancer and Toxic Substances

Detailed plans for tracking down carcinogens and toxic pollutants in the environment were prepared and refined from a "start-up" appropriation of $500,000. As a consequence of Governor Byrne's Executive Order 40, DEP created a program to begin to identify cancer-causing and toxic chemicals, and other agents, in the state's air, water, sediment, and in fish consumed by people. The program also started a number of projects to specify the communities exposed to high levels of such substances, determine the most important environmental factors which may be linked to the state's cancer incidence, the highest in the nation, and proposed recommendations for limiting the exposure of residents to hazardous emissions in their environment.

After extensive consultation, the program published a list of 80 known or suspected carcinogens compiled from the national and international scientific literature, including publications of the International Agency for Research on Cancer (IARC) of the World Health Organization. A revised and expanded list is being developed.

In coordination with the Department of Labor and Industry, the program designed an industrial survey to provide new information on industrial practices that may contribute carcinogens and toxics to the environment. About 10,000 factories will be inventoried, beginning in FY78, on the use, storage, release and disposal of certain known and suspected carcinogens and toxic substances. This unique study has attracted the interest of the U.S. Environmental Protection Agency and of the U.S. Department of Health, Education and Welfare, which recently awarded grants to help support the project.

Working largely with other state institutions, a number of major joint projects were begun. These included:

1. Monitoring of groundwater throughout the state to test for the presence of about 50 different cancer-causing and toxic substances;

2. Monitoring of a number of surface waters in the northeast part of New Jersey for these same substances;

3. Monitoring of nine organic substances in the air of north and central New Jersey;

4. Monitoring of fish and other biological organisms for the presence of PCBs, PBBs, kepone, mercury and other selected substances;

5. Analyzing the statistical relationship between cancer mortality and a large number of environmental factors in New Jersey and surrounding counties in New York, Connecticut and Pennsylvania;

6. Evaluating the feasibility of a new computer method in analyzing cancer statistics in this area.

During 1978, monitoring projects will be expanded to carcinogenic and toxic substances in air, water, soil, and biological organisms throughout the state. Sources of these substances will be identified and control regulations will be evaluated.

Pine Barrens

Protection of delicate agricultural, ecological, aesthetic and water quality values of the southern New Jersey Pine Barrens emerged as a major environmental issue in FY77.

Executive Order 56, signed May 28, 1977, by Governor Byrne, established the Pinelands Review Committee, made up of representatives of local governments and concerned interest groups. The committee fulfills a watchdog role in monitoring state plans and activities in the Pinelands. The Committee will make recommendations supporting Pinelands Preservation and will develop guidelines for future state actions. The proposed guidelines will emphasize protection of environmental resources, and promotion of compatible recreational, agricultural and commercial development activities. The Governor directed DEP to set aside $10 million in state Green Acres funds for acquisition of land and easements in the Pinelands.

DEP proposed Central Pine Barrens Water Quality Standards and Critical Area designation for a 760 square mile region, representing about half of the total Pinelands area. It was the first time that groundwater standards and nondegradation standards were proposed in New Jersey. The standards are an outgrowth of state and federal laws.

Solid Waste Management

Actions were brought to terminate seven environmentally substandard land disposal facilities and to prohibit disposal of liquid waste at another location. Enforcement actions against facility operations for noncompliance with DEP solid waste rules and regulations increased 123% over FY76. Improved engineering design requirements for new landfills were adopted to improve protection of ground and surface water quality.

Landfilling in New Jersey of solid waste originating outside of the state continued pending action of the U.S. Supreme Court. A state law banning the practice (N.J.S.A. 13:11-1 et seq.) was upheld by the New Jersey Supreme Court when challenged by Yonkers, N.Y. and Philadelphia. The decision is under appeal.

Atlantic City

Approval of the constitutional amendment in November, 1976, authorizing casino gambling in Atlantic City, increased pressure on the built and natural environment of Atlantic City and its region. The same effect is inherent in the prospect of offshore oil and gas exploration, with its need for onshore support facilities in the same region. The Atlantic City environment faces possibly severe impacts, with the need to preserve existing neighborhoods and cultural resources, create additional housing and establish hotels and casinos in suitable locations. Protection of the natural environment of the area, including the wide expanse of wetlands between the mainland and Absecon Island, emerged as an important issue.

During FY77, DEP's Division of Marine Services held preapplication conferences with prospective developers of onshore support bases and of hotels and casinos, which require CAFRA permits. Prospective hotel and casino developers were informed that use of wetlands is discouraged by the Department. DEP also worked to establish coordination with Atlantic City's master plan consultant.

Offshore Oil

At the end of the fiscal year an appeal against the U.S. Department of the Interior leasing of 93 tracts of outer continental shelf land off New Jersey for offshore oil and gas exploration was expected to be carried to the U.S. Supreme Court. The leasing occurred in 1976 but exploration was prevented by Federal Court action initiated by the Natural Resources Defense Council and local governments on Long Island. That ruling was overturned by the U.S. Circuit Court of Appeals in May, 1977.

New Jersey's concerns about increased competition in the bidding procedures, rapid exploration procedures and a meaningful role for state and local governments in federal decisions and other long needed reforms, between exploration and production are being addressed in the Federal Outer Continental Shelf Lands Act Amendments pending in Congress.

Ocean and Beach Conditions

The worst ocean kill of bottom dwelling aquatic life in New Jersey history occurred in the summer and early fall of 1976 from the Manasquan River to south of Atlantic City and as far as 50 miles out to sea. The cause was loss of dissolved oxygen in the bottom layer of seawater due to the decay of dead algal growth. A DEP study indicated that the excessive algal bloom resulted from no single cause but a combination of natural circumstances including weather and human impacts such as the depositing of nutrients into the ocean in various ways. There was no indication of a toxic chemical cause. The cost of the event to the fisheries industry was estimated at $265 million. Populations of lobsters, surf clams and some species of fish suffered vast reductions. The spring and summer of 1977 showed no evidence of a similar occurrence.

Enactment of the Marine Fisheries Management Act of 1976 provided some long-term optimism for fisheries and related industries because of its expected control of foreign fishing within 200 miles of the coast.

DEP strongly recommended to the U.S. Environmental Protection Agency that ocean dumping of sewage sludge and other wastes be ended by 1981 and that, in the meantime, careful consideration be given to relocating the dumping from the present site 12 miles offshore to a distance of 106 miles from land.

Department approval was given to $3.3 million in funding to help seven metropolitan sewerage authorities develop alternatives to ocean disposal of sludge. DEP also approved a $1.7 million Camden sludge composting project which is to end ocean dumping of the city's sludge in 18 months.

Nuclear Power Plants

Following a period of low power testing, the Salem Nuclear Generating Station (SNGS) Unit No. 1 began operation on December 1, 1976. On May 20, 1977, SNGS operated for the first time at 100% power. An electrical short in a cable to one of four reactor coolant pumps forced an automatic shutdown of SNGS on June 4, 1977. All safety systems functioned according to design during this unplanned shut-down.

The Oyster Creek Nuclear Generating Station, which began operation in 1969, set a new national record of 266 consecutive days of operation. Oyster Creek was shut down April 23, 1977, for annual refueling and maintenance.

Construction activities continued on the Hope Creek Nuclear Generating Station Units 1 and 2 scheduled for completion in 1982 and 1983, respectively, and the Forked River Nuclear Generating Station scheduled for completion in 1981.

DEP routinely monitors for radioactivity in the vicinities of nuclear installations. Drills simulating emergency conditions are held regularly at such facilities.

Passaic River Flood Management

A $1 million federal planning appropriation was approved to do Passaic River flood control planning during FY78. The Passaic River Citizen Task Force, a DEP advisory group, continued to work with the Department planning flood control activities and coordinating state and local involvement with the U.S. Army Corps of Engineers. The area affected by Passaic River flooding includes portions of Bergen, Essex, Hudson, Morris, Passaic and Union Counties.

Asbestos

Discovery of possible asbestos hazards in the Howell Township school system and at Winston Towers Condominium complex in Cliffside Park led to separate studies by DEP, by Mt. Sinai Medical Center, and by a Governor's task force. The studies are focusing primarily on sprayed-on asbestos coatings which have been used extensively in buildings throughout the state, removal procedures, and other steps for corrective action when needed.

Governor Byrne petitioned EPA to revise the federal regulations for control of asbestos, particularly for removal and for decorative use of sprayed-on materials containing the substance. EPA has responded with amendments to the National Emission Standard for Asbestos.

Sulfur-In-Fuel Strategy

Preservation of ambient air quality while allowing for alleviation of severe economic conditions in southern New Jersey led to an attempt to develop a consistent region-wide strategy on sulfur-in-fuels, in cooperation with Pennsylvania, Delaware and the City of Philadelphia. A successful agreement had not been concluded at the end of the fiscal year. New Jersey is depending on EPA to enforce stringent sulfur oxide emission standards in Philadelphia. The sulfur-in-fuel variances, which were issued in March, 1975, and extended through 1976, have not caused any violations of National Ambient Air Quality Standards in New Jersey, although one monitor shows peak values close to the New Jersey secondary sulfur dioxide standards. The source impacting this monitor is undergoing detailed evaluation.

ENVIRONMENTAL OVERVIEW

The current status of, and trends affecting, the varied threads from which the New Jersey environment is woven are examined in the following section.

WATER

Surface Waters

A detailed water quality assessment for New Jersey is being completed by the Division of Water Resources in accord with requirements of the U.S. Environmental Protection Agency (EPA).

Thirty water sampling stations in New Jersey will chemically test for conventional and toxic pollutants in both water and bottom muds.

Wastewater Facilities

One of the most important factors in obtaining better water quality is improvement and expansion of sewage treatment facilities. During FY77 41 EPA project grants totalling almost $215 million were awarded to New Jersey municipalities. Two previously funded projects went into operation: a new Ocean County Sewerage Authority plant and one in Parsippany-Troy Hils Township, Morris County.

Bans on new connections to sewerage systems have been imposed in some places pending upgrading of treatment facilities. FY77 began with 65 such bans in effect. Ten were lifted, two new ones were imposed and 57 remained in effect at the close of the fiscal year.

Lakes

Nearly a third of New Jersey lakes sampled so far have exhibited eutrophic conditions. Eutrophication is the natural process through which a lake gradually becomes a marsh and finally a flat, boggy area of land. It results from buildup of decayed vegetation on a lake's bottom, and is greatly accelerated by inflow of water laden with nutrients such as organic wastes or fertilizers.

Eutrophication is more severe in central and southern New Jersey, where about 40 percent of the lakes sampled are affected. In northern New Jersey 18 percent of the lakes sampled are affected.

Water Quality

No New Jersey public water supply failed to meet standards for bacterial contamination during FY77.

Figure 1 shows overall surface water quality in the state.

Categories of water quality shown in Figure 1 should be interpreted as follows:

Poor - Quality precludes fish propagation but would allow fish survival, except for certain times of year when fish kills may occur. Unsuitable for swimming.

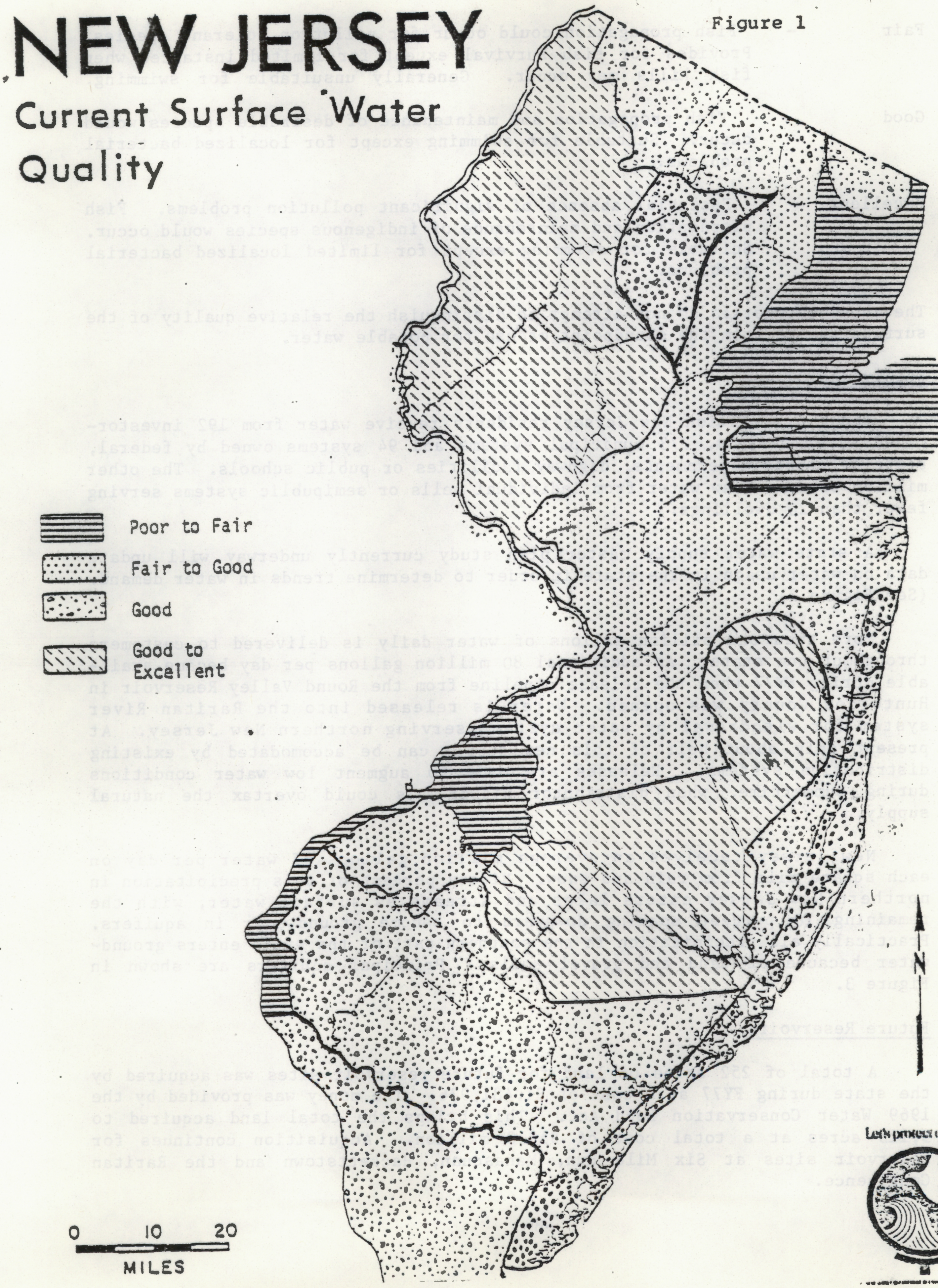

Figure 1

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Fair - Fish propagation could occur for pollution tolerant species. Provides for fish survival except for limited instances when fish kills may occur. Generally unsuitable for swimming.

Good - Fish propagation and maintenance of desirable species would occur. Suitable for swimming except for localized bacterial problems.

Excellent - Essential absence of significant pollution problems. Fish propagation and maintenance of indigenous species would occur. Suitable for swimming except for limited localized bacterial problems.

The above categories do not attempt to distinguish the relative quality of the surface waters from the standpoint of use for potable water.

Supply and Demand

About 6.5 million New Jersey residents receive water from 192 investor-owned water systems, 273 municipal systems and 94 systems owned by federal, state or county governments, highway facilities or public schools. The other million persons draw water from individual wells or semipublic systems serving fewer than 20 dwellings.

A state water supply master plan study currently underway will update data on water usage in the state in order to determine trends in water demand. (See Figure 2)

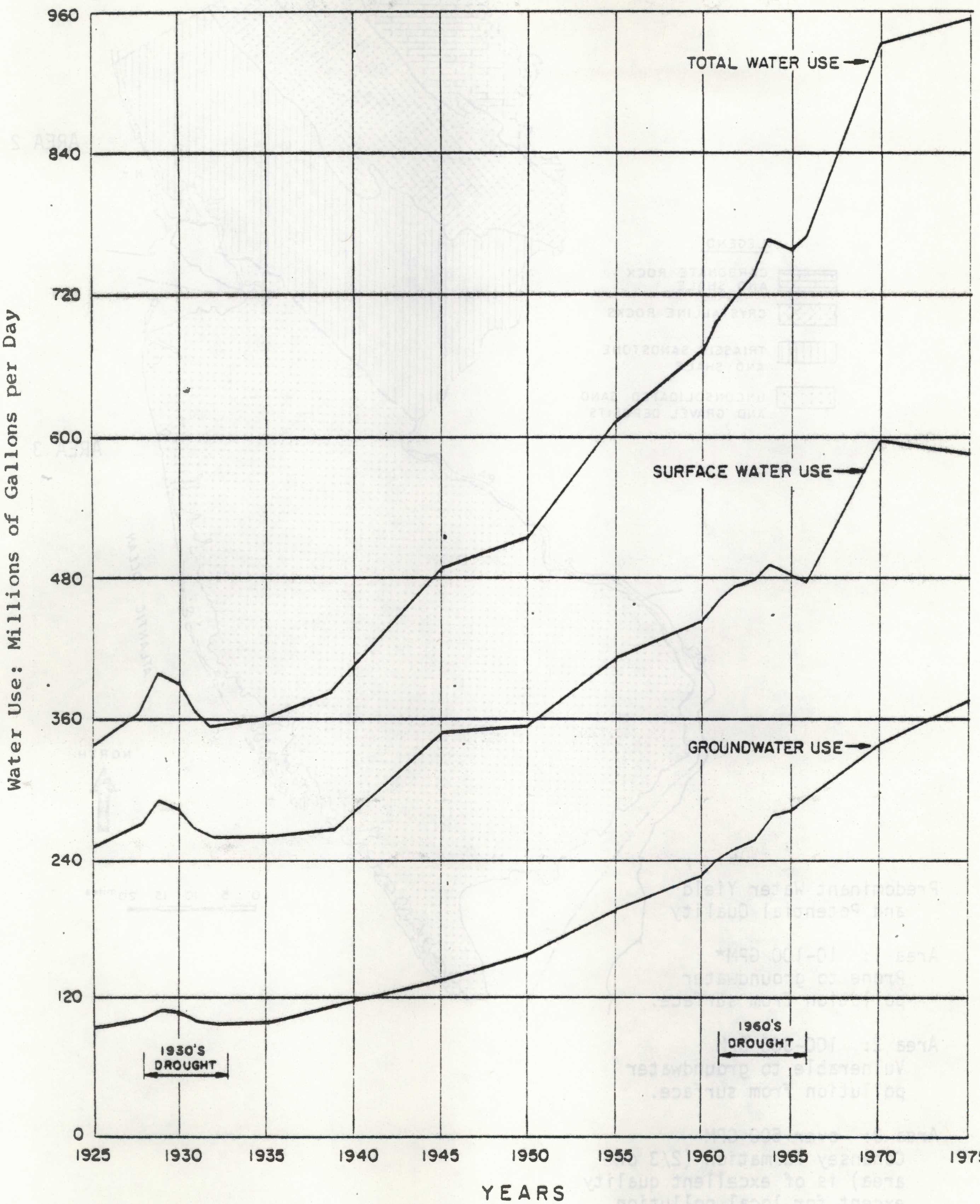
More than one billion gallons of water daily is delivered to customers throughout the state. An additional 80 million gallons per day became available during FY77 when the release pipeline from the Round Valley Reservoir in Hunterdon County was opened. Water is released into the Raritan River system for withdrawal by water systems serving northern New Jersey. At present only about half of this new supply can be accomodated by existing distribution systems. Releases are made to augment low water conditions during summertime, when distributor withdrawals could overtax the natural supply.

New Jersey receives an average million gallons of water per day on each square mile from rain and snow. Ninety percent of this precipitation in northern New Jersey enters lakes and streams as surface water, with the remaining 10 percent soaking downward to become groundwater in aquifers. Practically all precipitation in the southern part of the state enters groundwater because of sand and gravel soils. Principal aquifers are shown in Figure 3.

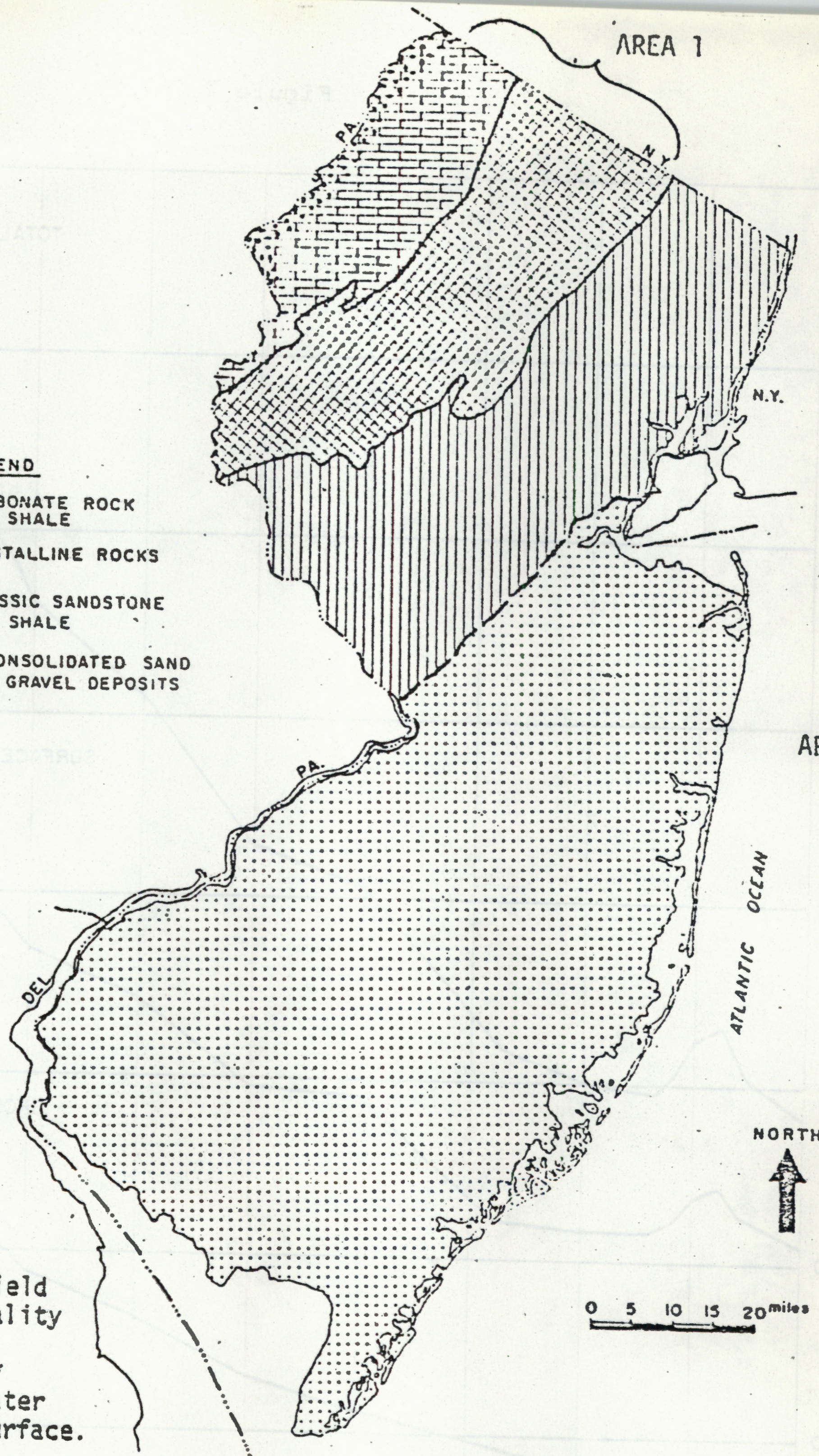
Future Reservoirs

A total of 252 acres of land for future reservoir sites was acquired by the state during FY77 at a cost of $1,481,936. The money was provided by the 1969 Water Conservation Bond Act. This brings the total land acquired to 5,115 acres at a total cost of $18.8 million. Acquisition continues for reservoir sites at Six Mile Run, Manasquan, Hackettstown and the Raritan Confluence.

Figure 2



NEW JERSEY WATER USE 1925-1975



Predominant Water Yield
and Potential Quality

Area 1: 10-100 GPM*
Prone to groundwater
pollution from surface.

Area 2: 100-300 GPM
Vulnerable to groundwater
pollution from surface.

Area 3: over 500 GPM
Cohansey formation (2/3 of
area) is of excellent quality
except for local pollution.
Saltwater intrusion is a
growing problem in coastal areas.

*gallons per minute

Figure 3

Spills of Oil and Hazardous Materials

Although the total number of recorded spills has increased, the magnitude of the spill problem cannot be accurately assessed because of spills of unknown volume. See Table 1 below.

Table 1
OIL AND HAZARDOUS MATERIALS SPILLS

Fiscal Year	Number of Spills	Gallons	Number of Spills of Unknown Gallonage
FY72	161	1,917,208	76
FY73	315	1,602,124	107
FY74	543	1,720,758	156
FY75	614	28,726,547 *	215
FY76	768	8,280,725	334
FY77	980	1,340,207	227

* Includes two major spills, a pipeline spill of 1 million gallons and a tanker spill of 12 million gallons.

Fish Kills

Fish kills result from lowered levels of dissolved oxygen in water, a condition which is aggravated by higher temperatures. Kills also can be triggered by sudden changes in water temperature and the presence in water of toxic materials or excessive levels of organic matter such as inadequately treated sewage. In the latter case, dissolved oxygen is depleted by bacterial action.

Table 2
DOCUMENTED NEW JERSEY FISH KILLS

Fiscal Year	Fish Kills
1972	73
1973	69
1974	99
1975	93
1976	73
1977	94

Shellfish Waters

A reversal in the downward trend in acres of bay and estuary waters which are approved for harvesting shellfish was registered in FY77. A total of 1,650 acres were transferred from the fully closed to approved categories. Continued improvement of shellfish waters around the state is greatly dependent on completion of new or upgraded sewage treatment facilities.

Table 3
CLASSIFICATION OF SHELLFISH GROWING AREAS
(Acres)

Bay and Estuarine Areas

Calendar Year	Approved	Fully Closed	Special Restrictions	Seasonal	Total
1971	295,513	68,478	23,478	5,209	392,852
1972	293,235	70,930	23,478	4,209	392,852
1973	289,053	73,464	25,723	4,612	392,852
1974	284,185	74,012	27,243	7,412	392,852
1975	281,852	74,230	27,243	9,527	392,852
1976	279,995	75,044	28,193	9,620	392,852
1977	281,645	73,394	28,193	9,620	392,852

Ocean Waters

Calendar Year	Approved	Fully Closed	Total
1975	144,750	85,650	230,400
1976	185,944	94,764	280,708
1977	196,168	84,540	280,708

AIR

Air Quality Index

Table 4 shows New Jersey air quality index daily ratings for FY76 and FY77. The index is calculated for 20 sites, based on daily readings for four pollutants (carbon monoxide, sulfur dioxide, and particulates as smoke shade) measured at all continuous monitoring sites, and ozone, measured at six continuous monitoring sites. (See Figure 4)

Figure 4

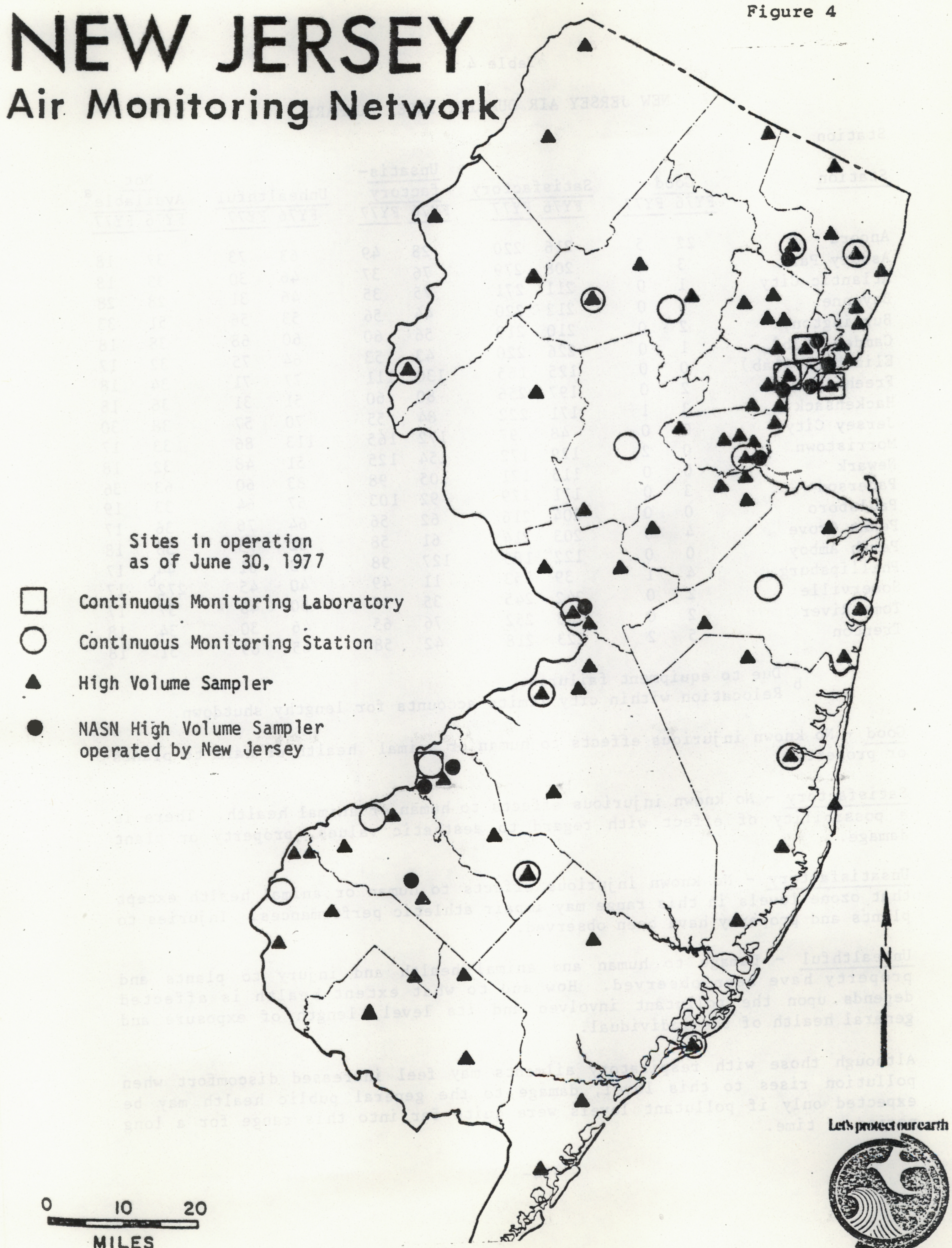

NEW JERSEY
Air Monitoring Network
Sites in operation
as of June 30, 1977
Continuous Monitoring Laboratory
Continuous Monitoring Station
High Volume Sampler
NASN High Volume Sampler
operated by New Jersey
0 10 20
MILES
N
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Table 4

NEW JERSEY AIR QUALITY INDEX SUMMARY

Station

Station	Good		Satisfactory		Unsatis-factory		Unhealthful		Not Available[a]	
	FY76	FY77	FY76	FY77	FY76	FY77	FY76	FY77	FY76	FY77
Ancora	22	5	216	220	28	49	63	73	37	18
Asbury Park	3	1	208	279	76	37	46	30	33	18
Atlantic City	1	0	211	271	75	35	46	31	28	28
Bayonne	6	0	212	220	44	56	53	56	51	33
Burlington	2	0	210	219	56	60	60	68	38	18
Camden (Lab)	1	0	226	220	43	53	64	75	32	17
Elizabeth (Lab)	0	0	125	165	130	111	77	71	34	18
Freehold	2	0	197	256	80	60	51	31	36	18
Hackensack	3	1	171	222	84	55	70	57	38	30
Jersey City	0	0	48	97	172	165	113	86	33	17
Morristown	0	2	129	172	154	125	51	48	32	18
Newark	0	0	115	171	105	98	83	60	63	36
Paterson	3	0	171	179	92	103	67	64	33	19
Paulsboro	0	0	204	216	62	56	64	76	36	17
Penns Grove	4	0	203	214	61	58	62	75	36	18
Perth Amboy	0	0	122	189	127	98	73	61	44	17
Phillipsburg	4	1	39	253	11	49	40	45	272[b]	17
Somerville	2	0	242	245	35	57	50	46	37	17
Toms River	2	0	208	252	76	65	46	30	34	18
Trenton	5	2	223	218	42	58	65	69	31	18

[a] Due to equipment failures.
[b] Relocation within city limits accounts for lengthy shutdown.

Good - No known injurious effects to human or animal health or harm to plants or property.

Satisfactory - No known injurious effects to human or animal health. There is a possibility of effect with regard to aesthetic values, property or plant damage.

Unsatisfactory - No known injurious effects to human or animal health except that ozone levels in this range may impair athletic performances. Injuries to plants and property have been observed.

Unhealthful - Damage to human and animal health and injury to plants and property have been observed. How and to what extent health is affected depends upon the pollutant involved and its level, length of exposure and general health of the individual.

Although those with respiratory ailments may feel increased discomfort when pollution rises to this level, damage to the general public health may be expected only if pollutant levels were quite far into this range for a long period of time.

1973 - 1976 Air Quality Trends

Suspended particulate levels have shown a general improvement (down 32%) over the last three calendar years in highly urbanized areas, while in areas with less industrial and human activity the levels have remained relatively the same (down 4%). Only one monitor (Jersey City) of the 73 operating in 1976 was not in compliance with the primary health standards.

Sulfur dioxide levels began to decline in the late 1960s due to the implementation of sulfur-in-fuel controls, the last of which went into effect in late 1970. This improving trend continued in the more polluted areas through 1976. However, there was some increase in average sulfur dioxide levels in cleaner areas in 1976. The unusually cold weather of 1976 helped raise sulfur dioxide levels because of increased fuel burning. For calendar year 1976, all monitoring locations were in compliance with the Federal health standards.

Carbon monoxide levels in urban areas have declined (down 16%) from 1973 to 1976, due primarily to the implementation of New Jersey's emission Inspection/Maintenance program, which began in 1974, coupled with the federal motor vehicle emission control program. (See Figures 5 and 6) Despite the general downward trend over the period, levels above the primary standard occurred at 16 of the 22 monitoring locations. It is predicted that these excesses will continue into 1980.

Ozone levels remain excessively high in both urban and non-urban areas of the state. The change from 1974-1976 was an increase of 13%. The ozone problem is compounded by the fact that high levels of ozone are already present in air entering the state, due to out of state emissions. New Jersey has put into effect regulations which control emissions of substances leading to ozone formation, particularly from automobiles through the Inspection/Maintenance program and from storage and transfer of organic liquids (gasoline, etc.). DEP is encouraging enactment of uniform regulations from state to state over a wide geographic area of the country to force a large scale reduction in ozone and contributing emissions.

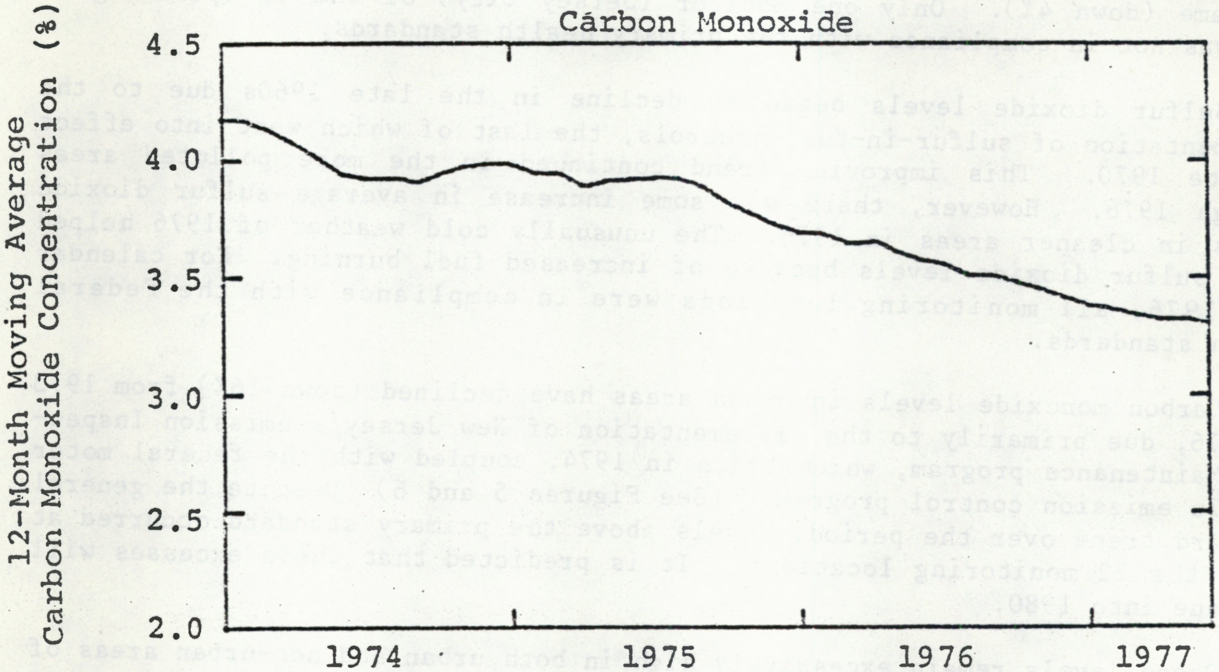
Nitrogen dioxide levels have shown a decline (down 23%) with one of five monitoring locations not in compliance with the standards. Compliance is predicted by 1978 due to the continued application of the federal and New Jersey motor vehicle emissions control program.

Reduction of Contaminants

Enforcement of permit requirements during FY77 prevented 207,240 tons of particulates, 5,850 tons of sulfur compounds, and 223,102 tons of organic solvents from entering the atmosphere. This reflects a dramatic increase both in number of permits issued and in control of organic solvent emissions. Of the 10,010 permits approved, 5,200 were for gasoline service stations installing submerged fill pipes and control equipment and 376 were for painting tanks white to reduce heat buildup and resulting vapor loss.

Figure 5

NEW JERSEY AUTOMOBILE EXHAUST
EMISSIONS TREND



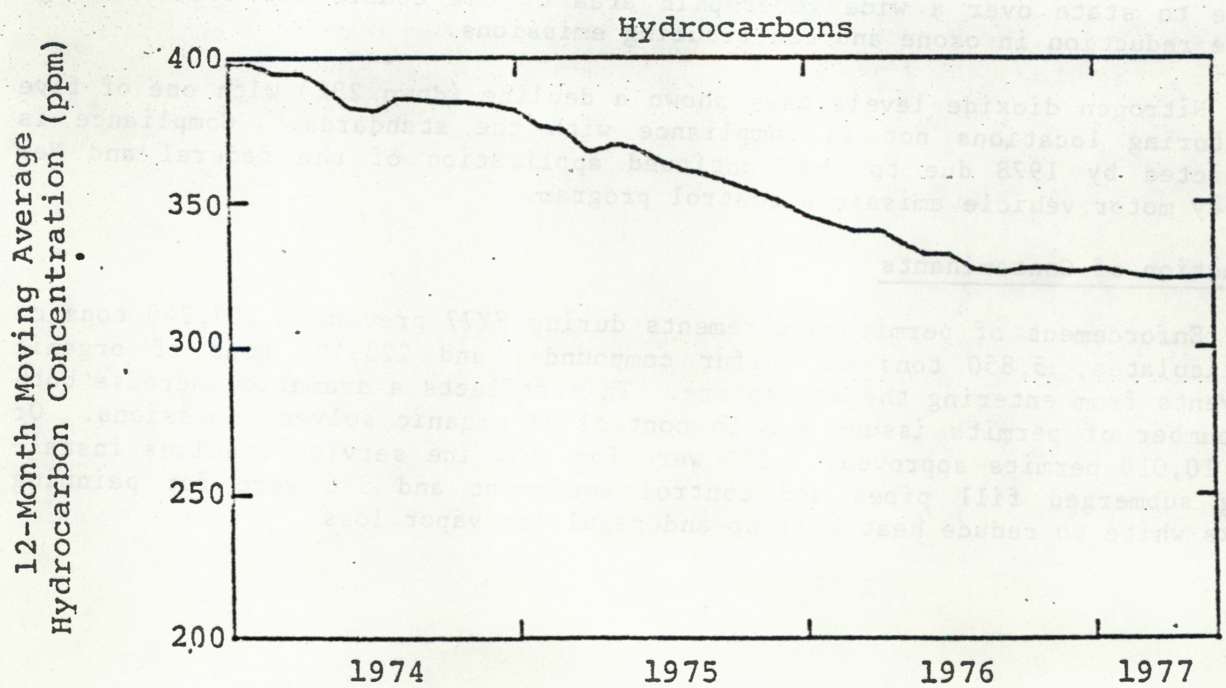


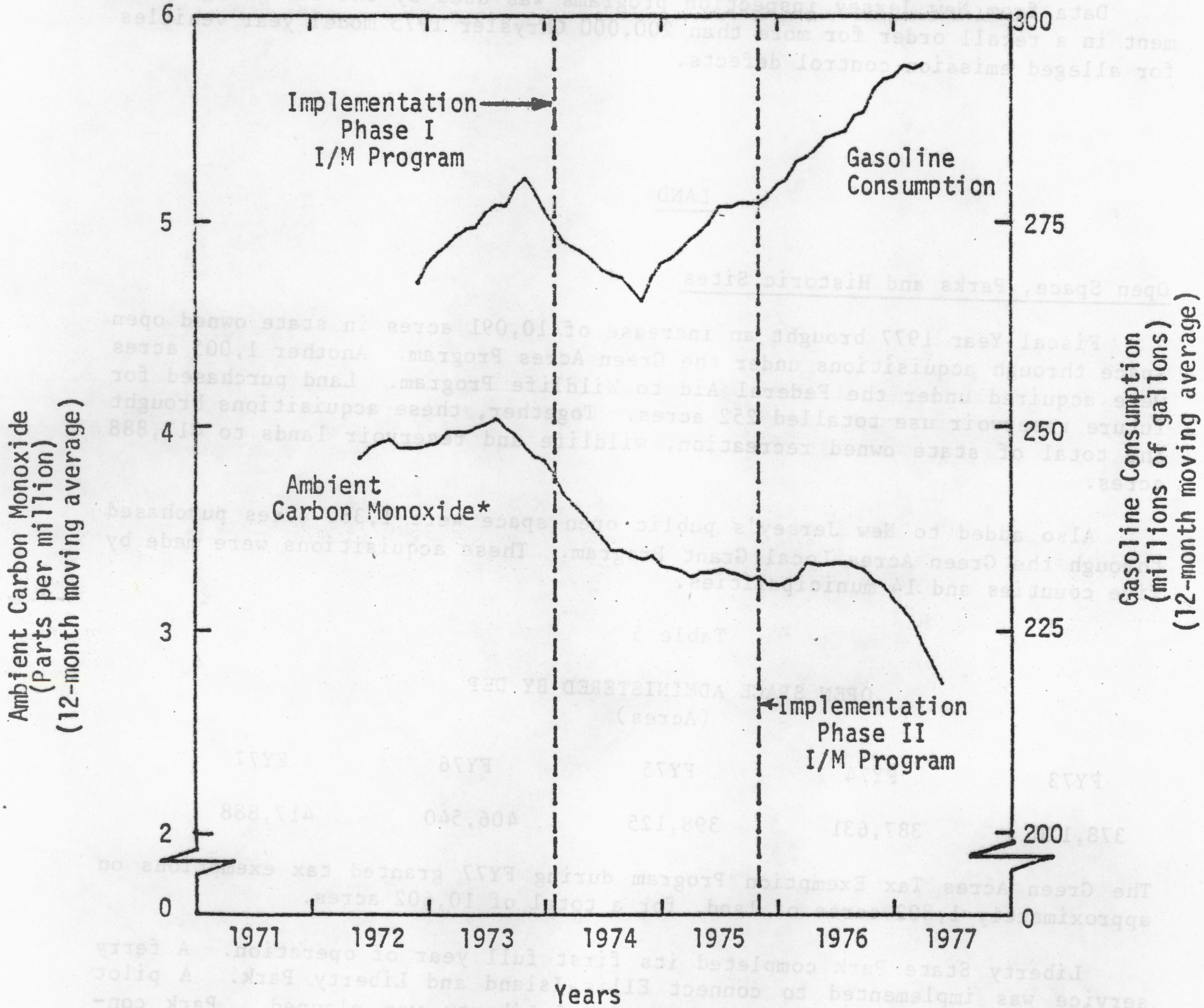
Figure 6

RELATIONSHIP OF

CARBON MONOXIDE AIR QUALITY

TO

GASOLINE CONSUMPTION BY MOTOR VEHICLES



*Monthly moving averages for 18 monitoring sites

Motor Vehicle Emissions

Motor vehicles produce an estimated 95% of carbon monoxide in the air. A steady decrease in releases of that poison is attributed to the success of the New Jersey motor vehicle emission inspection program and the manufacture of cars with more efficient pollution control systems. The inspection program which produces better maintained autos also results in the conservation of millions of gallons of gasoline each year. A DEP proposal for more stringent vehicle emission standards to continue this trend in light of ever increasing gasoline consumption was undergoing review at the end of FY77.

Data from New Jersey inspection programs was used by the federal government in a recall order for more than 200,000 Chrysler 1975 model year vehicles for alleged emission control defects.

LAND

Open Space, Parks and Historic Sites

Fiscal Year 1977 brought an increase of 10,091 acres in state owned open space through acquisitions under the Green Acres Program. Another 1,005 acres were acquired under the Federal Aid to Wildlife Program. Land purchased for future reservoir use totalled 252 acres. Together, these acquisitions brought the total of state owned recreation, wildlife and reservoir lands to 417,888 acres.

Also added to New Jersey's public open space were 1,380 acres purchased through the Green Acres Local Grant Program. These acquisitions were made by five counties and 14 municipalities.

Table 5

OPEN SPACE ADMINISTERED BY DEP
(Acres)

FY73	FY74	FY75	FY76	FY77
378,120	387,631	398,125	406,540	417,888

The Green Acres Tax Exemption Program during FY77 granted tax exemptions on approximately 1,802 acres of land, for a total of 10,602 acres.

Liberty State Park completed its first full year of operation. A ferry service was implemented to connect Ellis Island and Liberty Park. A pilot program of ferry service to the Statue of Liberty was planned. Park construction continues and Phase II and Phase III of the harbor cleanup and the restoration of the terminal are in progress.

Governor Byrne established the Liberty State Park Study and Planning Commission to make recommendations on park planning and development.

Major facilities were built at Washington Crossing and Monmouth Battlefield State Parks with Green Acres development funds. Green Acres funding was approved for planning and improvements at Ringwood State Park and Spruce Run Campground. Funding was also approved for restoration of three historic sites: Oxford Furnace, the Walt Whitman House and Batsto Village.

Round Valley Recreation Area was opened to the public, with construction to be completed during FY78. Construction of temporary facilities began at Wawayanda State Park.

Table 6

Green Acres Expenditures, FY77

	Expenditures	Acres Acquired	Unobligated Balance
1961 State Acquisition	$ 114,795	0.7	$ 250,000
1961 Local Acquisition	123,650	66.4	10,000
1971 State Acquisition	3,942,307	7,798.1	3,672,336
1971 Local Acquisition	1,745,010	640.9	7,977,108
1974 State Acquisition	11,073,122	2,292.0	23,018,961
1974 Local Acquisition	2,727,335	672.7	38,885,766
1974 State Development	8,364,445	--	22,050,650
1974 Local Development	593,979	--	26,498,008
Administrative Costs (FY77)	1,498,706	--	
Totals:	$30,183,249	11,470.8	$122,364,383

Farmland Preservation Project

A pilot program to preserve prime farmland in Burlington County is being pursued jointly by the Departments of Environmental Protection and Agriculture.

The goal of the project is to keep land in agricultural use by purchasing development easements. Such lands may not be used for any purposes other than activities common to agricultural production, which is defined as the production for commercial purposes of crops, horticultural, livestock and livestock products.

The Department of Agriculture, in cooperation with DEP, is currently administering the project in the Townships of Medford, Lumberton, Southampton and Pemberton. Five million dollars in Green Acres funds has been set aside to acquire development easements.

Coastal Area

New Jersey's coastal area of 880,640 acres, which includes the region subject to terms of the Coastal Area Facility Review Act (CAFRA), extends from Cheesequake Creek and Raritan Bay to the Delaware Memorial Bridge. This is 18 percent of the state's land area.

During FY77 32 applications for CAFRA construction permits were approved for 2,028 residential housing units, nine sewerage projects and four other projects. Six applications, for a total of 917 residential units, were denied.

Riparian Lands

All riparian lands (lands currently or formerly flowed by mean high tide) are owned or regulated by the state. Those sold or leased remain under state regulation. Completion of a statewide mapping program will reveal the precise acreage of riparian land under state ownership.

During FY77 165 acres of riparian land were sold to private owners. Proceeds of $1,218,330 resulting from these sales were deposited in the Fund for the Support of Free Public Schools (N.J.S.A. 18A:56-1 et seq.).

Flood Plains

During FY77 25 miles of flood plains were delineated, bringing the total delineated along New Jersey's approximately 6,500 miles of streams to 643 miles since the program began in 1966. At the end of the fiscal year, 952 miles of flood plains in 117 communities were in process of delineation for federal flood insurance and to meet state criteria. This represented federal expenditures of $2,502,677 and $259,597 in state money.

Stream encroachment permits applied for by property owners totalled 688. Of those, and others received late in the prior year, 643 were granted and 52 rejected. Sixteen of those denied were granted after appeals.

A total of 539 communities were eligible for flood insurance under the federal flood insurance program by the end of FY77. Also entering the flood insurance program during the year was the area administered by the Hackensack Meadowlands Development Commission.

Wetlands

During FY77, 541 acres of wetlands in Monmouth, Middlesex and Atlantic Counties were added to the approximately 242,000 acres already under state regulatory control. In all, about 245,000 acres of wetlands have been mapped in 11 counties. Prior to the start of regulation in 1973, some 1,900 acres of wetlands were destroyed each year. Since then, loss has been cut by more than 95 percent.

Table 7

STATUS OF NEW JERSEY WETLANDS

Fiscal Year	Acreage at Beginning of FY	Acres of Wetland Lost			Total Acres Lost	Acres Remaining
		Low Quality	Intermediate Quality	High Quality		
74	242,000	4.95	7.57	0.60	13.12	241,987
75	241,987	174.20	3.15	0.31	177.66	241,809
76	241,809	94.03	-0-	50.30	144.33	241,665
77	242,206*	22.72	0.06	7.90	30.68	242,175
	Total	295.90	10.78	59.11	365.79	242.175

* 541 acres were added to state regulatory control.

Historic Sites

Twenty-eight New Jersey sites were added to the National Register of Historic Places during FY77.

Table 8
New Jersey Sites
National Register of Historic Places

Number of sites FY67 through FY74	FY75	FY76	FY77	Total
176	69	38	28	311

Federal Funds

The U.S. Bureau of Outdoor Recreation (BOR), through the Land and Water Conservation Act of 1965, provided New Jersey with more than $9.2 million in federal matching funds on approved land acquisition and development projects during FY77.

SCORP

Preparation of a new Statewide Comprehensive Outdoor Recreation Plan (SCORP) was completed during FY77. Under ongoing revision,, this study provides a necessary planning framework for meeting open space and recreation needs of New Jersey. Public participation is sought through hearings and from a Citizen's Advisory Task Force.

Forest Fires

Although forest fires are currently held to an average yearly loss of about 20,000 acres, the goal is to cut that figure by more than half. Sometimes controlled low intensity fires are purposely used in the southern New Jersey Pinelands to reduce the accumulation of branches, leaves and needles. Such ground cover often fails to readily decompose due to soil conditions, contributing to the intensity and damage of uncontrolled random forest fires.

About 41,000 acres of New Jersey woodlands were burned by 2,800 fires during FY77, due mainly to drought conditions which had persisted for 18 months.

Table 9
FOREST FIRES
Frequency and Cost

Calendar Period	Average #Fires/Yr.	Average Acres Burned/Yr.	Average Value Destroyed/Yr.
1938-1949	1,595	23,940	$58,509,360
1950-1963	1,317	29,880	73,026,720
1964-1973	1,494	11,425	28,557,500
1974-1977	2,065	16,281	23,297,500

Wood Residue Recycling

Under a $45,000 grant from the U.S. Forest Service, 650,000 cubic feet of residues were recycled in FY77. A value of $140,000 was realized from disposal savings and prices paid for the residues. A major function of the program is to bring together producers of wood residues such as sawdust, chips and scrap lumber, and customers for those materials.

Shore Protection

Four projects to protect 10 miles of New Jersey's 120-mile seashore from action of the Atlantic Ocean were completed during FY77 at a total cost of $1.2 million. Under the State Aid Program for Shore Protection, administered by the Office of Shore Protection of the Division of Marine Services, total project costs are equally divided by municipalities and the state.

SOLID WASTE

Solid waste deposited in New Jersey consists of the residues of production and consumption, solid byproducts of removing pollutants from air and water, litter discarded on the countryside and the unharvested or inedible remainder of agricultural and animal production activities.

Waste volumes, including some 2.3 million tons of solid wastes and some 38.2 million gallons of liquid waste from other states, exceed 14.5 million tons of solids and 264 million gallons of liquid and sludges a year. Among the solids disposed of in New Jersey each year are an etimated 600,000 tons of iron and steel, 30,000 tons of aluminum, almost 500,000 tons of glass and nearly 4 million tons of paper.

Management

Approval of an appropriation of $900,000 by Governor Byrne on June 30, 1977, activated the State's solid waste management planning program, authorized under c. 326 Laws of 1975. The act establishes 22 solid waste management districts. (See Figure 7.)

Each district, either by itself or jointly with another district, must develop a comprehensive solid waste management plan capable of meeting the needs of every municipality within the district.

Of the $900,000 appropriation, $750,000 is earmarked for grants to the individual districts to undertake their planning responsibilities. The remaining $150,000 will be utilized by DEP for planning, including preparation of planning guidelines, an overview of markets for recovered materials and energy and a program to encourage source separation and recycling.

Table 10

Schedule for the Development of District Solid Waste Management Plans in New Jersey

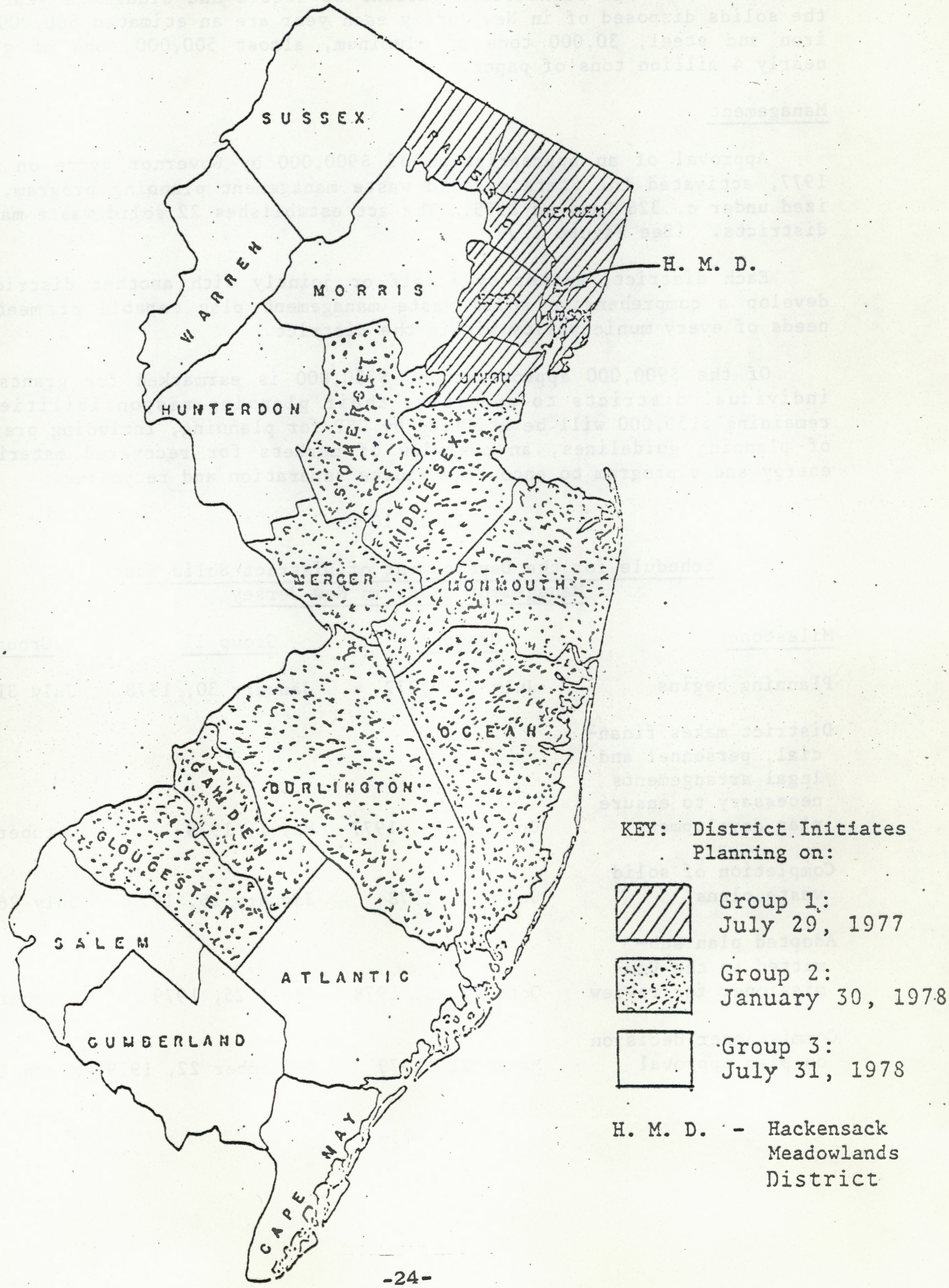
Milestone	Group I	Group II	Group III
Planning begins	July 29, 1977	January 30, 1978	July 31, 1978
District makes financial, personnel and legal arrangements necessary to ensure plan development	October 27, 1977	May 1, 1978	October 30, 1978
Completion of solid waste plans	July 24, 1978	January 25, 1979	July 26, 1979
Adopted plan submitted to the Commissioner for review	October 23, 1978	April 25, 1979	October 24, 1979
Commissioner decision on plan approval	March 22, 1979	September 22, 1979	March 22, 1980

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOLID WASTE ADMINISTRATION

Figure 7

Schedule for Formulation and Development of District Solid Waste Management Plans



Registration

During FY77 there were 3,527 collector/haulers registered with DEP. The bulk of the material they collected was consigned to 260 registered land disposal facilities in New Jersey.

Monitoring and surveillance of existing solid waste management practices, development and implementation of programs capable of conserving natural resources, recovering material and energy from the waste stream and enhancing environmental quality were stressed during FY77.

Hazardous Wastes

A hazardous waste management plan was developed by DEP to provide for environmentally sound storage, transportation, treatment and disposal of chemical and hazardous wastes. To be implemented during FY78, the plan provides for a waste manifest system, monitoring and surveillance, operator certification, criteria for hazardous waste management facilities and laboratory/testing capabilities. Development of the plan was supported by a grant of $80,000 from the U.S. Environmental Protection Agency.

Surveillance and Enforcement

Surveillance and enforcement actions undertaken by DEP's Solid Waste Enforcement Section are shown below.

Table 11

FY77 Enforcement Activities
Solid Waste Administration

Facility Inspections Conducted		3,068
Enforcement Actions		463
Administrative Actions	- 320	
Cease and Desist Notices	- 143	
Total	463	
Penalty Settlements Collected		$68,525.00

Enforcement actions increased to 463, contrasted with 208 during FY76.

RADIATION

Dental Exposure Reduction

DENT, an acronym for Dental Exposure Normalization Technique, is an exposure reduction and quality assurance program administered by the Bureau of Radiation Protection. DENT was developed by the Food and Drug Administration following studies showing that dental x-ray exams were causing unnecessarily high exposures to patients.

The DENT Program in New Jersey consists of two phases. Phase I involves screening all dental x-ray units for exposure output. X-ray exposure cards are mailed back to the Bureau for analysis. Of particular concern are cards which read above or below the pre-set limits. Phase II consists of a demonstration and correction procedure where there are questionable readings.

After nearly six months, 2,333 dentists have responded and the Bureau has received data on 3,362 dental x-ray units. Of those, 1,072 show a tip-of-cone exposure at least 50% above those that can be achieved with the most up to date procedures but still within regulatory limits. As part of Phase II, inspectors have visited 181 dental offices to make the necessary corrections to reduce exposure to a minimum. An exposure reduction of between 50 and 200% per film has been obtained through the cooperation of the dental community, resulting in a substantial radiation dose savings to the people of New Jersey. (See Figure 8)

DENT will be a continuing educational program. Exposure cards will be mailed to dentists with new x-ray units and remailed to dentists already participating in the program. The Bureau's inspectors will continue to visit dental offices and instruct both dentists and assistants in proper technique.

Nuclear Medicine

Because of the growing use of radiopharmaceuticals for medical diagnosis and disease treatment, these substances have become a major source of human exposure to radioactive materials. (See Table 12)

Table 12

Partial Summary of Diagnostic Procedures
in Nuclear Medicine

Examination	No. of Estimated Annual Administrations in NJ
Brain	40,040
Thyroid	28,600
Lung	41,730
Liver	52,000
Kidney	11,700

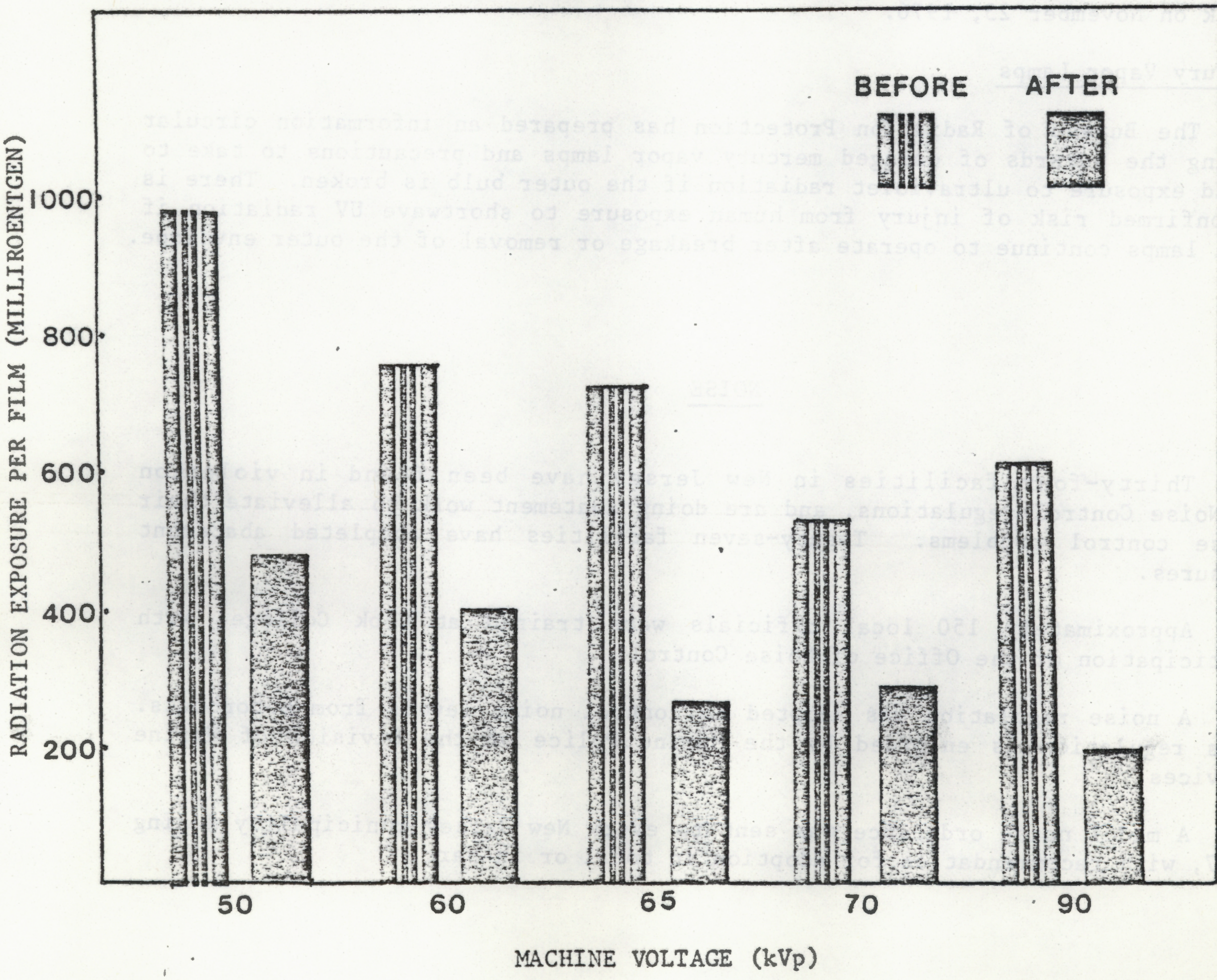
In diagnostic work, many of these radiopharmaceuticals are admnistered by nuclear medicine technologists who have received only on-the-job training. During the fiscal year, the Bureau of Radiation Protection and the Commission on Radiation Protection developed a proposed regulation for the training and certification of such technologists for public hearing.

Nuclear Facilities Emergency Plan

"The New Jersey State PIPAG Manual-An Emergency Plan for Major Nuclear Facilities" was distributed in November, 1976. (PIPAG: Procedures for Implementing Protective Action guides.) The 300 page manual describes the procedures to be used in a radiological emergency at a major nuclear facility

Figure 8

DENT PROGRAM REDUCTION OF DENTAL RADIATION
EXPOSURE AT SPECIFIC MACHINE VOLTAGES



and the resources available for emergency response. The manual also includes the communication procedures and criteria for protective action. The major nuclear facilities in the State are Oyster Creek Nuclear Generating Station in Ocean County, Salem Nuclear Generating Station in Salem County, and E.R. Squibb & Sons, Inc., a major radiopharmaceutical manufacturer in New Brunswick.

The plan was presented to the public at meetings near the Salem Nuclear Generating Station January 10, 1977, and Oyster Creek April 25, 1977. Annual meetings on the plan and annual drills for testing and evaluating emergency communications networks, radiological instrumentation, and inter-agency response and performance are scheduled. The first drill was held at Oyster Creek on November 23, 1976.

Mercury Vapor Lamps

The Bureau of Radiation Protection has prepared an information circular citing the hazards of damaged mercury vapor lamps and precautions to take to avoid exposure to ultraviolet radiation if the outer bulb is broken. There is a confirmed risk of injury from human exposure to shortwave UV radiation if such lamps continue to operate after breakage or removal of the outer envelope.

NOISE

Thirty-four facilities in New Jersey have been found in violation of Noise Control regulations, and are doing abatement work to alleviate their noise control problems. Twenty-seven facilities have completed abatement measures.

Approximately 150 local officials were trained at Cook College, with participation of the Office of Noise Control.

A noise regulation was adopted to control noise levels from motorboats. This regulation is enforced by the Marine Police of the Division of Marine Services.

A model noise ordinance was sent to every New Jersey municipality during FY77, with recommendation for adoption in total or in part.

PESTICIDES

Registrations and Certifications

During FY77, 621 companies registered a total of 5,147 products classified as Economic Poisons, under provisions of the New Jersey Economic Poison Act. The number of dealers registered to sell restricted pesticides increased by 44, to a total of 795 registered to date. Pesticide applicator businesses registered in FY77 number 521; commercial applicators 3,874; private applicators, 3,214.

Notice of EPA's approval of the New Jersey State Plan for Certification of Pesticide Applicators was published in the FEDERAL REGISTER of April 13, 1977. This plan requires that private and commercial applicators of pesticides take a test to demonstrate their competency. The tests are administered in two phases; first a core level test for general knowledge in the field and second a test in specific categories that an applicator intends to work in (i.e., turf, ornamental, structural, etc.).

Certification testing for pesticide applicators entered its second phase in November, with the start of category testing. Category tests were given 4,954 times during the fiscal year; in addition, 3,415 core certification tests were given, making a total of 11,313 core tests administered to date.

On June 16, 1977, EPA gave DEP approval to issue new products registered in accordance with special local needs under Section 24(c) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Nine pesticides have been registered under this section; four additional registrations were made under FIFRA's emergency provisions.

WILDLIFE

Migratory habits of many fish and wildlife species and similarity of wildlife problems in states adjoining New Jersey involve DEP in work shared with federal and interstate agencies. Agencies include the Mid-Atlantic Marine Fisheries Management Council, Governor's Marine Fisheries Advisory Commission, Atlantic Flyway Waterfowl Council, Northeast Study Groups on deer, rabbit and hare, turkey and furbearers, and the Hudson River Fish and Wildlife Management Cooperative.

Game Species

Despite gradual shrinkage of New Jersey wildlife habitat through development, most wildlife populations remain at a high level. State owned fish and wildlife management areas increased to 145,860 acres, from 144,000 acres in FY76.

During FY77 natural populations were supplemented by release of 62,248 pheasants and 11,027 quail. Annual harvests of game were: Deer, 13,018, including new records of 1,960 to bow hunters and 7,140 during the six-day firearm season; rabbits, 686,000; squirrels, 219,000; pheasants, 443,000; quail, 220,000; grouse, 49,000; ducks, 282,000, and woodcock, 138,000. More than 2.5 million man days were devoted to hunting.

During FY77 responses were made to 1,272 non-deer wildlife damage and nuisance complaints, a 65.2 percent increase over FY76, and 539 deer damage complaints, a 37.5 percent increase.

Twenty-three wild turkeys, trapped in New York and Vermont, were released in northern New Jersey in an effort to reintroduce this native species. Four confirmed sightings of tagged hens with broods were reported later.

Nongame Species

Two endangered species, once common in New Jersey, were objects of continuing efforts to reintroduce viable breeding populations. A dozen peregrine falcon nestlings were obtained from Cornell University and were raised in artificial nests. Nine ospreys were fledged in five active nests from eggs imported from Maryland. A total of 71 active osprey nests produced 60 fledglings. During the prior fiscal year, 62 nests produced 59 young.

New Jersey's only nesting pair of bald eagles failed to produce any offspring.

Emergency Action

During the severe winter of 1976-77, an estimated 60,000 brant, 2,000 black ducks and thousands of other birds starved. Higher losses were prevented through an emergency feeding program involving the DEP, 600 individuals and 100 organizations. A total of 316 feeding stations were established in shore areas. They dispensed a total of 312 tons of corn.

MARINE AND FRESHWATER RESOURCES

The clam relay program in FY77 brought relocation of 7.9 million hard clams from Lakes Bay area restricted waters to leased grounds in Great Bay. After 30 days in Great Bay the clams are tested for purity prior to harvesting. During FY76 over 5 million clams were moved from condemned to clean waters.

A survey of Tuckerton Creek prior to a U.S. Army Corps of Engineers' dredging project disclosed an estimated million hard clams in condemned waters. In order to salvage the clams before the dredging operation, a relay program was initiated. Over 1.5 million clams were saved.

State oyster seedbeds in upper Delaware Bay were opened for the twelfth consecutive year, with 298,000 bushels of seed oysters transplanted to lease grounds in the bay.

Sea clams harvested during the season of December 1, 1976 to April 30, 1977, totalled 215,000 bushels, 35,000 bushels below the harvest limit of 250,000 bushels.

During FY77 fish stocked in state waters included: Trout, 535,880; bluegills, 1,800; channel catfish, 1,712, and largemouth bass, 1,105.

A lake trout research program was begun in March, 1977, with release of 6,300 yearling lake trout in Round Valley Reservoir.

The Bureau of Fisheries of the Division of Fish, Game and Shellfisheries participated in 496 stream encroachment reviews, 371 riparian applications, 27 Coastal Area Facility Review Act (CAFRA) reviews, and 287 reviews for the U.S. Environmental Protection Agency.

ENVIRONMENTAL REVIEW

Environmental Impact Statements

The Office of Environmental Review in DEP evaluates environmental impact statements required under federal or state laws, and coordinates the comment process on impact statements within the Department. Among changes in planning resulting from DEP recommendations were reconsideration of a major project on the basis of the siting analysis and public safety, selection of an alternate highway plan to protect 60 acres of tidal flats, and reduction of the size and scope of a proposed development to protect adjacent stream banks and adjoining salt marshes.

Aspects to be considered in such reviews are potential impacts on air, water and noise pollution; effects on existing animal and vegetable populations, social and economic consequences and implications for public health and safety.

During FY77 a total of 61 environmental impact statements or assessments were processed through the OER. Fifty-four project reviews were completed, with comments attached. Among eight projects sponsored by the U.S. Army Corps of Engineers were proposals for maintenance dredging of navigable waters, a cleanup of the New York-New Jersey Harbor and flood control work in urban areas. Twenty-two reviews involved residential housing proposals, mostly from the New Jersey Housing Finance Agency. Nine energy related statements processed ranged from oil and chemical storage terminals to a floating nuclear generating station. Other projects focused on interstate highway construction and extension of the PATH rail system. The Office also prepared the draft environmental impact statement for Liberty State Park.

Cultural Review

OER also reviews historic, archeologic and architectural impacts of projects which can affect properties listed, or eligible for listing, in the National Register of Historic Places. During FY77, 202 such project plans were received and 160 were reviewed. The balance were held pending receipt of needed additional information.

ENVIRONMENTAL ANALYSIS

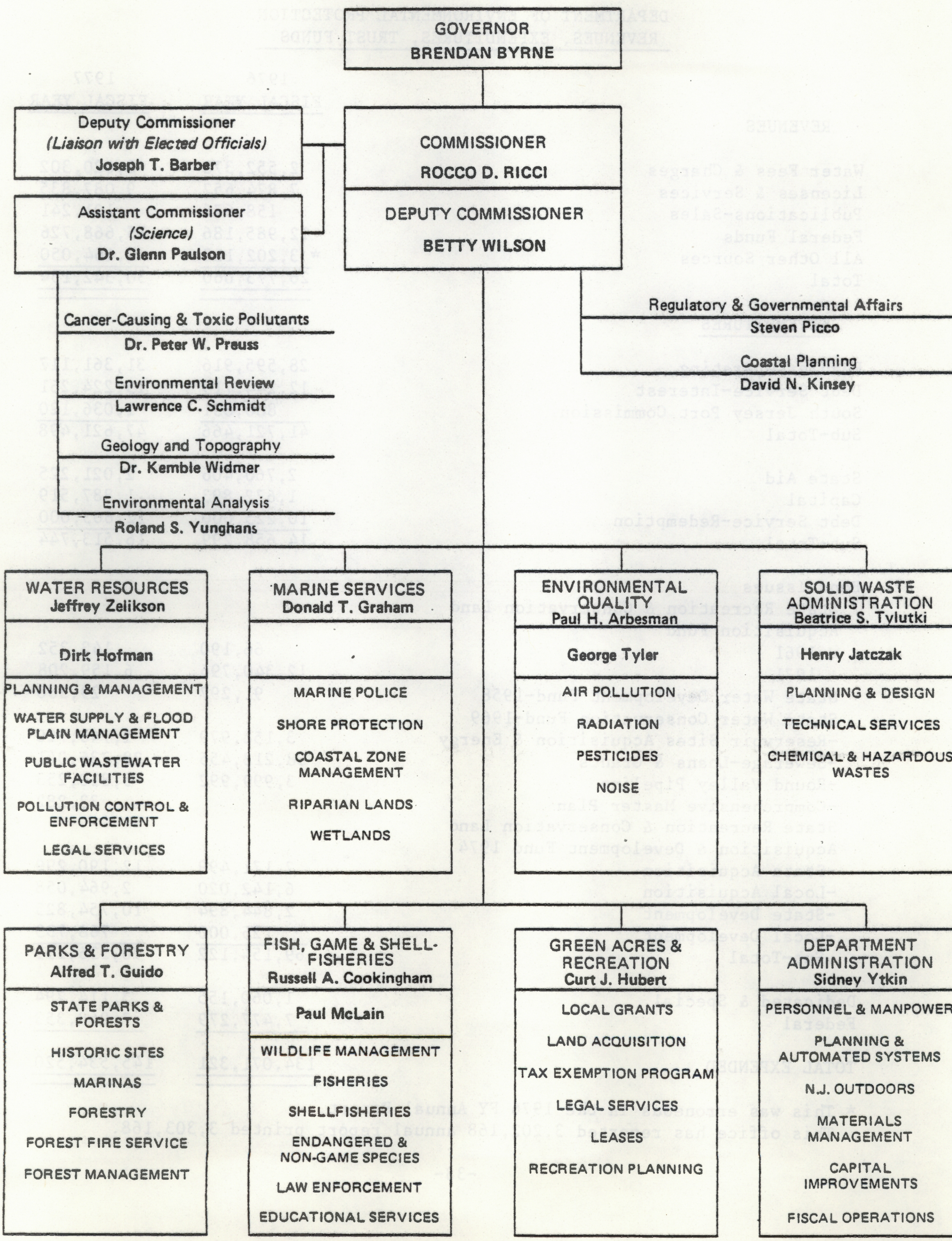
Riparian lands (lands currently or formerly flowed by mean high tide) are delineated by the Office of Environmental Analysis through use of aerial infra-red color photography and surface examinations to identify types of vegetation, as well as longterm measurement of tides. Such mapping identifies lands to which the state claims ownership.

During FY77 measurements were completed at 59 tidal stations. An additional 56 stations were operating by the end of the fiscal year. Resulting data is analyzed by the National Ocean Survey, a federal agency under contract to the state, and the results are used by OEA in field checks at sites at or below mean high water.

During the year OEA prepared specifications and contracted for acquisitions of more than 3,500 color infra-red aerial photographs of tideland areas. Nearly 1,800 base photomaps at a scale of 200 feet per inch can be produced from the photographs.

Plans were completed for five studies in areas of Monmouth, Middlesex and Ocean counties, and OEA biologists completed field checking of vegetation for preparation of 25 tidelands maps.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
ORGANIZATIONAL CHART AS OF MARCH 1,1978



APPENDIX B

DEPARTMENT OF ENVIRONMENTAL PROTECTION
REVENUES, EXPENDITURES, TRUST FUNDS

	1976 FISCAL YEAR	1977 FISCAL YEAR
REVENUES		
Water Fees & Charges	2,552,378	3,020,302
Licenses & Services	7,874,652	9,087,835
Publications-Sales	158,676	101,241
Federal Funds	12,985,186	15,668,726
All Other Sources	* 3,202,168	2,464,050
Total	26,773,060	30,342,154
EXPENDITURES		
Regular Operating	28,595,916	31,361,117
Debt Service-Interest	12,244,719	15,224,261
South Jersey Port Commission	880,831	1,036,120
Sub-Total	41,721,466	47,621,498
State Aid	2,760,406	2,021,225
Capital	1,672,893	1,887,519
Debt Service-Redemption	10,225,000	12,605,000
Sub-Total	14,658,299	16,513,744
Bond Issues		
State Recreation & Conservation Land Acquisition Fund		
1961	66,190	143,352
1971	12,340,796	6,159,208
State Water Development Fund-1958	91,297	29,360
State Water Conservation Fund-1969		
-Reservoir Sites Acquisition & Energy	3,158,979	2,746,720
-Sewerage-Loans & Grants	38,213,455	28,736,041
-Round Valley Pipeline	3,999,992	5,810,253
-Comprehensive Master Plan		33,282
State Recreation & Conservation Land Acquisition & Development Fund 1974		
-State Acquisition	2,171,499	12,190,299
-Local Acquisition	6,142,020	2,964,058
-State Development	2,844,894	10,754,825
-Local Development	125,000	768,733
Sub-Total	69,154,122	70,336,131
Dedicated & Special	1,060,155	3,114,794
Federal	7,477,279	7,948,353
TOTAL EXPENDED	134,071,321	145,534,520

* This was erroneous in the 1976 FY Annual Report.
This office has reported 3,202,168 annual report printed 3,303,168.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOURCES OF FEDERAL FUNDS

	1976 RECEIPTS	1977 RECEIPTS
EPA Program Grants		
-Water Supply		202,449
-Air Pollution	2,297,441	2,400,000
-Water Pollution	1,317,653	1,436,068
-Solid Waste Planning	112,713	129,057
-Basin Planning (Water)		
-Manpower Development	40,000	57,249
-Pesticide Control	19,553	73,494
-Areawide Waste Treatment Management		201,592
Sub-Total	3,787,360	4,499,909
Department of Interior		
-Youth Conservation Camp	61,000	217,614
-Bureau of Outdoor Recreation		
Capital Grants	874,580	22,341
Local Program	2,216,308	3,093,322
State Program-Land Acquisition	363,879	2,451,626
Title X - Island Beach	720,000	--
-Historic Preservation	102,480	87,051
-Fish & Game	589,270	634,370
Sub-Total	4,927,517	6,506,324
Department of Commerce		
-Coastal Zone Management	284,508	1,158,241
-Shellfisheries	4,681	7,692
-Marine Services	6,038	
-Fish & Game		19,006
-Recreational Boating		15,278
American Revolution Bicentennial Administration		
-Title X - Liberty Park	2,400,000	--
Department of HEW, Public Health Service		
Department of Transportation, Boating		193,571
Department of Agriculture, Forestry	713,196	581,766
Office of the President, Water Supply	24,900	154,650
Department of Army, Water Supply	54,825	85,582
Department of HUD		
-Flood Insurance	742,397	2,045,220
-Green Acres	21,636	379,822
Food & Drug Administration	2,934	15,122
Nuclear Regulatory Agency (Radiation)	15,194	6,543
Office of Emergency Planning, Flood Disaster		
Sub-Total	4,270,309	4,662,493
TOTAL FEDERAL FUNDS	12,985,186	15,668,726

APPENDIX C

BUREAU OF AIR POLLUTION CONTROL AIR MONITORING NETWORK
(See Map, Page 13)

As of June 30, 1977, the regular Air Monitoring Network consisted of four continuous monitoring laboratories, eighteen continuous monitoring stations, and eighty-six high volume samplers. (see map) Additional monitoring sites, operated seasonally or primarily for special studies are not shown.

The continuous monitoring laboratories and stations telemeter data directly to the air monitoring headquarters in Trenton, on a 24-hour around-the-clock basis. All four laboratories monitor nitrogen oxides, nitric oxide, nitrogen dioxide, sulfur dioxide, carbon monoxide, total hydrocarbons, smoke shade, and methane; ozone, aldehydes and carbon dioxide are measured at three laboratories. All stations monitor sulfur dioxide, carbon monoxide and smoke shade; four stations also monitor either nitrogen dioxide or ozone.

The high-volume samplers collect total suspended particulates over a 24-hour period and are operated every sixth day. Material collected by these samplers is manually brought to the air monitoring technical center near Trenton for weighing. The high-volume sampler network was expanded during the fiscal year, by addition of seven new samplers and ten samplers formerly operated by the federal government for the National Air Surveillance Network (NASN). The NASN samplers were incorporated into the New Jersey Network in October 1976. All counties, except Hunterdon and Somerset, now have at least two high-volume samplers; future expansion of the network should provide at least three of these samplers in each county.

Air monitoring data is used to determine compliance with Federal and New Jersey air quality standards, pinpoint levels during air pollution episodes, assess significant deterioration in any Air Quality Control Region, determine long-term pollutant trends and provide the basis for the daily air quality index.

APPENDIX D

DEP'S ENFORCEMENT ACTIONS INVOLVING LAW AND CODE VIOLATIONS FINES

	Penalties Collected FY 1975	Penalties Rebated FY 1975	Penalties Collected FY 1976	Penalties Rebated FY 1976	Penalties Collected FY 1977	Penalties Rebated FY 1977
Water Pollution Control	$ 55,850	$ 0	$ 77,984	$ 0	$113,654	$ 0
Stream Encroachment	4,500	0	200	0	2,000	0
Potable Water Supply	0	0	0	5	0	0
Riparian Lands	123,038	77,180	42,580	0	16,446	0
Wetlands	0	0	1,250	0	1,500	0
Coastal Areas	0	0	0	0	0	0
Air Pollution Control	196,227	238,600	115,050	359,625	105,300	143,820
Solid Waste Management	11,365	8,820	16,250	450	66,900	1,125
Noise Control	0	0	0	0	0	0
Pesticide Control	0	0	0	0	1,600	0
Radiation Control	0	0	0	0	0	0
Fish, Game & Shellfisheries	110,998	0	168,368	0	62,682	0
Parks & Forests (summonses)	11,614	0	0	15,977	20,450	0
Marine Police (summonses)	24,456	0	1,995	0	23,048	0
TOTAL	$538,048	$324,600	$423,677	$376,052	$393,375	$144,945

APPENDIX E

DEPARTMENT OF ENVIRONMENTAL PROTECTION
COUNCILS AND COMMISSIONS
FY77

Name of Council or Commission	Members	No. of Times Council Met In FY77
Advisory Council on Solid Waste Mgt. (13:1E-7)	11	6
Boat Regulation Commission (12:7-34.49)	7	7
Clean Air Council (26:2C-3)	18	10
Clean Water Council (26:2E-9)	18	12
Board of Commissioners of Pilotage (12:8-1)	6	12
Commission on Radiation Protection (25:2D-1)	8	5
Fish & Game Council (13:1A-13)	11	12
Historic Sites Council (13:1B-15.108)	11	5
Historic Sites Trust (13:1B-15.108)	6	0
Natural Areas Council (13:1B-15.7)	7	0
Natural Lands Trust (13:1B-15.120)	11	3
Natural Resource Council (13:1B-10)	12	14
Noise Control Council (13:1F-6)	13	11
Pesticide Control Council (13:1F-6)	9	9
Sewage & Water Board of Examiners (58:11-18.10)	9	6
Shellfisheries Council (13:1B-44)	9	25
State Mosquito Control Commission (26:9-12.3)	7	4
Water Policy & Supply Council (13:1A-8)	11	12
Well Drillers Examination & Advisory Board (58:4A-7)	7	2
X-Ray Technician Board of Examiners (45:25-1)	10	3

APPENDIX F

DEPARTMENT OF ENVIRONMENTAL PROTECTION
COUNCILS AND BOARDS OF WHICH COMMISSIONER IS A MEMBER
FY77

Name	Commissioner's Designee
Agriculture Preserve Demonstration Program Steering Committee (P.L. 1976, c. 50)	Curt Hubert, Administrator Green Acres & Recreation Program
Beach Access Study Commission (J.R. 9, 1976)	Rocco D. Ricci, Commissioner
Boat Regulation Commission (P.L. 1962, c. 73)	Captain B. Russell Henry, Chief Bureau of Marine Law Enforcement
Cabinet Committee on Cancer Control (Executive Order No. 40, 1976)	Rocco D. Ricci, Commissioner (or Glenn Paulson, Assistant Commissioner, or Peter W. Preuss, Special Assistant to the Commissioner)
Cabinet Energy Committee (Executive Order No. 9, 1975)	Rocco D. Ricci, Commissioner (or Glenn Paulson, Assistant Commissioner)
Clean Water Council (P.L. 1967, c. 109)	Jeffrey Zelikson, Director Division of Water Resources
Coastal Area Review Board (N.J.S.A. 13:19-1 et seq.)	Rocco D. Ricci, Commissioner
Commission on Intergovernmental Regulation (P.L. 1970, c.10)	Joseph T. Barber, Deputy Commissioner
Commission on Radiation Protection (P.L. 1958, c. 116)	Gene Fisher, Acting Chief Bureau of Radiation Protection
Delaware River Basin Commission (P.L. 1961, c. 13)	Rocco D. Ricci, Commissioner (Designee of Governor Brendan Byrne)
Delaware and Raritan Canal Commission (N.J.S.A. 13:13A-1)	Steven J. Picco, Special Assistant (or Jeffrey D. Light, Executive Assistant)
Interstate Sanitation Commission (P.L. 1971, c. 106)	Rocco D. Ricci, Commissioner
N.J. Area Redevelopment Authority (P.L. 1962, c. 204; P.L. 1971, c. 33)	Steven J. Picco, Special Assistant

Name	Commissioner's Designee
N.J. Bicentennial Celebration Commission (P.L. 1973, c. 48)	Joseph T. Barber, Deputy Commissioner
N.J. Economic Development Authority (P.L. 1974, c. 80)	Steven J. Picco, Special Assistant (or Jeffrey D. Light, Executive Assistant)
N.J. Natural Lands Trust (P.L. 1968, c. 425)	Rocco D. Ricci, Commissioner
N.J. Nuclear Energy Council (Executive Order No. 31, 1971)	Rocco D. Ricci, Commissioner
Pinelands Environmental Council (P.L. 1971, c. 417)	Alfred Guido, Acting Director Division of Parks and Forestry
Pinelands Review Committee (Executive Order No. 56, 1977)	Betty Wilson, Deputy Commissioner
Soil Conservation Committee (P.L. 1937, c. 189, P.L. 1959, c. 129)	Gordon Bamford, State Forester
U.S. Department of Interior Outer Continental Shelf Policy Advisory Board	Glenn Paulson, Assistant Commissioner (Designee of Governor Brendan Byrne)
Water Supply Needs Interdepartmental Commission (Executive Order No. 3, 1974)	Rocco D. Ricci, Commissioner

APPENDIX G

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SUMMARY OF ATTENDANCE AND INCOME
PARKS, FORESTS AND HISTORIC SITES

	ATTENDANCE		INCOME	
	FY '76	FY '77	FY '76	FY '77
Forests	1,070,838	1,036,674	$ 417,193.98	$ 459,860.12
Parks	2,838,920	3,228,686	1,144,989.84	1,466,152.02
Historic Sites	160,459	108,578	16,502.21	6,488.26
Parks-Historic Sites	184,741	166,138	54,698.85	66,731.90
Forests-Historic Sites	140,692	97,851	81,423.64	29,168.68
Natural Resource Areas	-	-	1.00	1.00
Morris Canal	106,402	139,295	55,109.75	79,628.00
Trenton Office	-	-	-	9,045.00
Total	4,502,052	4,777,222	$1,769,919.27	$2,117,074.98

State Parks - Allaire, Allamuchy Mountain, Barnegat Lighthouse, Bull's Island, Cape May Point, Cheesequake, Delaware and Raritan Canal, Double Trouble, Fort Mott, Great Piece Meadows, Great Sound, Greenwood Lake, Hacklebarney, High Point, Hopatcong, Island Beach, Liberty, Monmouth Battlefield, Parvin, Pigeon Swamp, Princeton Battlefield, Prospertown, Rancocas, Ringwood, Round Valley, Shepherd Lake, Skylands, Spruce Run, Stephens, Swartswood, Voorhees, Warren Grove, Washington Crossing, Washington Rock, Wawayanda.

State Forests - Bass River, Belleplain, Green Bank, Abram Hewitt, Jenny Jump, Lebanon, Norvin Green, Penn, Ramapo Mountain, Stokes, Wharton, Worthington.

Historic Sites - Absecon Lighthouse, Allaire Village, Barnegat Lighthouse, Batsto, Boxwood Hall, Ferry House, Grover Cleveland Birthplace, Edison, Hancock House, Indian King Tavern, Joyce Kilmer House, Lawrence House, Old Dutch Parsonage, Ringwood Manor, Rockingham, Somers Mansion, Trenton Battle Monument, Twin Lights, Von Steuben House, Wallace House, Walt Whitman House, Waterloo Village.

APPENDIX H

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL LEGISLATION

P.L. 1976	DATE SIGNED BY GOVERNOR	DESCRIPTION
c. 55	July 27, 1976	Extends the maritime lien law to charges incurred for any drydockage and storage of vessels on land or in the water.
c. 92	September 21, 1976	Designated the "Clean Waters Bond Act of 1976" authorizes the issuance of $120,000,000 in bonds for sewerage and water supply facilities.
c. 98	October 5, 1976	Regulates the disposal of hazardous wastes, chemical waste, bulk liquids and pesticides.
c. 125	December 16, 1976	Authorizes the Passaic Valley Sewerage Commission to adopt those rules and regs required to qualify for federal assistance.
c. 130	December 21, 1976	Transfers the South Jersey Port Corp. from the Department of Environmental Protection to the Department of Labor and Industry.
c. 141	Janaury 6, 1977	Designated the "Spill Compensation and Control Act", prohibits the discharge of petroleum and other hazardous substances, provides for cleanup and removal of any such discharge, establishes a spill compensation fund.
P.L. 1977		
c. 11	February 3, 1977	Permits persons to take lobsters regardless of size, which are tagged by the government as part of a continuing research program.
c. 56	April 13, 1977	Permits a municipality to grant tax credits to property owners who are connected to a sewerage facility in another municipality, when the municipality undertakes the construction and installation of sewerage facilities within the municipality.
c. 74	April 25, 1977	Designated the "Water Pollution Control Act", provides for water pollution control; appropriates $888,000.

ENVIRONMENTAL LEGISLATION
(Continued)

P.L. 1977	DATE SIGNED BY GOVERNOR	DESCRIPTION
c. 75	April 25, 1977	Designated the "Water Quality Planning Act", provides for State and county water quality planning.
c. 105	May 30, 1977	Provides for the maintaining and improving of Island Beach State Park in its present state for posterity.
c. 111	June 1, 1977	Imputes liability for pollution of the coastal waters to the owner of the originating vessel.
c. 112	June 1, 1977	Imputes liability for pollution of the fresh waters to the owner of the originating vessel.
c. 113	June 2, 1977	Appropriates $100,000 for weed control for Lake Hopatcong and Lake Musconetcong.
c. 119	June 2, 1977	Appropriates $22,604,279 from the Clean Water Fund to provide grants to approved local sewerage construction project costs.
c. 126	June 13, 1977	Provides that a portion of the Delaware and Raritan Canal is not in the "review zone" of the Delaware and Raritan State Park.
c. 139	June 30, 1977	Appropriates $300,000 for additional forest fire fighting costs.

APPENDIX I

DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES ADOPTED

DATE ADOPTED	DESCRIPTION	REGISTER CITATION AND EFFECTIVE DATE
7/21/76	Revisions concerning delineated floodways in Raritan Basin	8 N.J.R. 379 7/21/76
7/21/76	Amendments concerning delineated floodways in Delaware Basin	8 N.J.R. 379 7/21/76
7/19/76	Rule on standard method of computing flood discharges	8 N.J.R. 379 7/21/76
8/9/76	Amendments to sewerage connection ban rules	8 N.J.R. 417 8/11/76
8/20/76	Repeal of rule on controlled hunting on certain wildlife management areas	8 N.J.R. 417 8/24/76
9/2/76	Revisions to rules on wetlands procedures	8 N.J.R. 460 9/3/76
9/20/76	Revised rules on certification of pesticide applicators	8 N.J.R. 460 10/1/76
9/20/76	Procedural rules of Bureau of Solid Waste Management	8 N.J.R. 460 9/20/76
9/29/76	Revisions to rules on sanitary landfills	8 N.J.R. 509 11/1/76
10/1/76	Amendment to Game Code on use of shotguns	8 N.J.R. 509 10/1/76
9/14/76	1977 Fish Code	8 N.J.R. 510 1/1/77
10/7/76	Amendment on delineated floodway in Raritan Basin	8 N.J.R. 510 10/13/76
10/6/76	Rules on debarment, suspension and disqualification from Department contracting	8 N.J.R. 510 10/13/76
10/18/76	Revised rules on fees regarding Bureau of Solid Waste Management	8 N.J.R. 510 11/1/76
11/5/76	Conservation Order concerning access to Lake Musconetcong (EXEMPT, EMERGENCY RULE)	8 N.J.R. 547 11/8/76

11/5/76	Revisions to surface water quality standards	8 N.J.R. 548 11/8/76
11/16/76	Extension of Wetlands order	8 N.J.R. 548 12/3/76
11/22/76	Emergency revisions on condemnation of certain shellfish beds	8 N.J.R. 548 11/23/76
12/30/76	Revises rules regarding the control and prohibition of air pollution from gasoline fueled motor vehicles (EMERGENCY RULE)	9 N.J.R. 77 1/3/77
1/26/77	Regulations for Farmland Demonstration Project (P.L. 1976, c. 50)	1/26/77
1/26/77	Sets standards for marking of leased tidal grounds in the Delaware River and Bay	9 N.J.R. 78 1/26/77
2/22/77	Sets standards for the possession of endangered wildlife	9 N.J.R. 118 2/22/77
3/8/77	Reclassifies certain shellfish beds in Barnegat Bay, Toms River, Island Beach and Cedar Creek Areas	9 N.J.R. 170 3/8/77
3/8/77	Reclassifies certain shellfish beds in the Sandy Hook and Long Beach Island Areas	9 N.J.R. 169 3/8/77
3/21/77	Revises various rules on air pollution control	9 N.J.R. 170 5/23/77
3/25/77	Sets standards for stream encroachment permits in the Central Passaic Basin	9 N.J.R. 217 3/25/77
3/31/77	Establishes rules for prevention, control and cleanup of discharges of petroleum and other hazardous substances	9 N.J.R. 217 3/31/77
4/1/77	Rules for implementation of the Coastal Area Facility Review Act (P.L. 1973, c. 185)	9 N.J.R. 218 4/5/77
4/21/77	Delineates certain floodways in the Raritan Basin	9 N.J.R. 218 4/21/77
4/21/77	Establishes standard methods for determining stream encroachment lines	9 N.J.R. 218 4/21/77
4/21/77	Delineation of the floodway of the Rahway River between Cranford and the Sperry Dam	9 N.J.R. 218 4/21/77
4/21/77	Revises beach buggy and closing hours rules and Island Beach State Park	9 N.J.R. 219 4/21/77

4/21/77	Establishes a shellfish license revocation schedule	9 N.J.R. 219 4/21/77
5/11/77	Sets oyster harvest season	9 N.J.R. 264 5/11/77
5/11/77	Establishes procedures for relaying hard clams	9 N.J.R. 265 5/11/77
5/20/77	Sets permissible noise levels for water-craft	9 N.J.R. 266 5/20/77
5/20/77	Revises report procedure for sea clam rules	9 N.J.R. 265 5/20/77
6/1/77	Rules for taking of seed oysters	9 N.J.R. 319 7/1/77
6/1/77	Concerns the taking of crabs by means of pots in the Delaware Bay	6/1/77
6/1/77	Continues closure of certain clam beds in area of Hereford and Cold Spring Inlets	9 N.J.R. 320 6/11/77
6/3/77	Excludes certain facilities from the 90-Day Construction Permit Program	9 N.J.R. 321 6/3/77
6/14/77	Sets standards for control and prohibition of spray-on asbestos surface coatings	9 N.J.R. 323 8/15/77
6/22/77	1977-78 Game Code	9 N.J.R. 322 8/1/77
6/22/77	Sets time limit for offerings under Farmland Preservation Project	9 N.J.R. 302 6/22/77

APPENDIX J

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMITS UNDER 90-DAY LAW
FY 77
(by quarter)

	Qtr.	Decisions	Decisions: Approvals	Disapprovals	Cancellations
RIPARIAN	1	158	154	4	0
	2	162	146	7	9
	3	103	97	6	0
	4	96	91	5	0
TOTAL		519	488	22	9
WETLANDS	1	10	9	0	1
	2	9	9	0	0
	3	6	5	0	1
	4	6	3	1	2
TOTAL		31	26	1	4
CAFRA	1	8	7	1	0
	2	16	14	2	0
	3	4	4	0	0
	4	10	6	3	1
TOTAL		38	31	6	1
STREAM ENCROACHMENT	1	177	157	18	2
	2	156	139	14	3
	3	145	132	7	6
	4	160	146	11	3
TOTAL		638	574	50	14
SEWER HOOKUPS	1	119	118	1	0
	2	106	94	12	0
	3	77	75	2	0
	4	133	124	9	0
TOTAL		435	411	24	0

Total Applications Decided

	Total	Approved	Denied	Cancelled
FY 76	1641	1,340	101	230
FY 77	1661	1,530	103	28

APPLICATIONS PENDING

	Riparian	Stream Encroachment	CAFRA	Wetlands	Sewer Hookups	Total
1 July 1975	129	784	43	29	182	1,167
1 July 1976	75	607	33	22	107	844
1 July 1977	159	97	24	21	29	330

APPENDIX K

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Regulatory Decisions Not Covered by 90-Day Law
FY 77

	Total	Approved	Denied	Cancelled
Solid Waste				
Disposal Facility Registrations	63	63	0	0
New Collector/Hauler Registration	3,377	3,377	0	0
Air Pollution Control	10,136	10,010	126	0
Potable Water				
New Distribution Systems/Treatment Plants	6	5	0	1
Changes, Alterations, Modifications, Improvements to Existing Distribution/Treatment Plants	130	124	3	3
Wastewater (Public)				
Changes, Alterations, Modifications, Improvements to Existing Treatment Plants				
Funded	1	1	0	0
Non-Funded	6	6	0	0
New Treatment Plants				
Funded	2	2	0	0
Non-Funded	10	10	0	0
Industrial Wastewater Treatment Plants New and/or Modified	40	27	12	1

APPENDIX L

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PUBLICATIONS ISSUED - FY'77

Bureau of Air Pollution Control, Coal Conversion Feasibility Study of New Jersey Utilities Steam Boilers, April, 1977

Bureau of Radiation Protection, Analytical Results of Quality Assurance Testing of Environmental Samples, January, 1977

Cleveland, W.S., B. Kleiner, J.E. McRae, J. Warner, and R.E. Pasceri, The Analysis of Ground-Level Ozone Data from New Jersey, New York, Connecticut, and Massachusetts: Data Quality Assessment and Temporal and Geographical Properties, September, 1976

Elston, John, Hydrocarbons from Mobile Sources, April, 1977

Elston, John, Auto Emission Inspection Test Variability, June, 1977

Ivey, Lee R., Storage Tank Emissions: Vapor-Air Stratification Versus Control Possibilities, June, 1977

Bureau of Radiation Protection, New Jersey Emergency Response Plan for Major Nuclear Reactors, Amended June, 1977

Division of Fish, Game and Shellfisheries, Winter Trout Stocking Studies,

Division of Fish, Game and Shellfisheries, Annual Report, January, 1977

Division of Fish, Game and Shellfisheries, Compendium of New Jersey Fish Laws, Including Regulations of 1977 Fish Code, September 1976

Division of Fish, Game and Shellfisheries, Compendium of New Jersey Game Laws, Including Regulations of 1976-1977, August, 1976

Bureau of Wildlife Management, New Jersey's White-Tailed Deer - Deer Report No. 3, September 1976

Division of Water Resources, Oil Spills (and Spills of Hazardous Materials) March, 1977

Division of Water Resources, Overview of Accomplishments Through Federal Grants for Municipal Wastewater Cleanup, September, 1976

Office of Coastal Zone Management, Interim Land Use and Density Guidelines for the Coastal Area of New Jersey, July, 1976

Office of Coastal Zone Management, Guiding the Coastal Area of New Jersey: The Basis and Background for Interim Land Use and Density Guidelines, July, 1976

Office of Coastal Zone Management, The Jersey Coast (the Newsletter), July, September, November, 1976; January, June, 1977

Office of Coastal Zone Management, a series of papers on coastal issues:

Agriculture and the Coast
Cultural Resources
Estuarine and Wetland Resources
Flooding
Groundwater Quantity and Quality in the New Jersey
Coastal Zone
Ocean Resources: Living
Ocean Resources: Mineral
Ocean Resources: Physical
Sand Movement and the Shoreline
Solid Waste and the Coast
Surface and Coastal Water Resources of New Jersey
Transportation and the Coast
Upland Living Resources: Endangered, Threatened and
Rare Wildlife
Upland Mineral Resources and the Coast
Upland Wildlife Habitats: Upland Living Resources

Office of Coastal Zone Management, A Guide to New Jersey's Beaches, June, 1976

Office of Coastal Zone Management, Alternatives for the Coast, October, 1976

Office of Coastal Zone Management, Alternative Boundaries of New Jersey's Coastal Zone, December, 1976

Paulson, G., Sadat, M., Wiley, J., and Goldstein, K., Report on the Ocean Dumping of Sludge and on Land Based Alternatives to the Ocean Dumping of Sludge, January, 1977.

APPENDIX M

DIVISION OF PARKS AND FORESTRY

Construction Projects Completed During FY77

Liberty State Park - Terminal (Partial)
Island Beach State Park - Bathhouse (OBA-1)
Barnegat Lighthouse State Park - Bathhouse
Restoration of Hancock House and Site
Delaware & Raritan Canal State Park - Calhoun Street Canal House Roof
Round Valley Recreation Area - Park Access Road
Round Valley Recreation Area - Route 22 Traffic Signalization
Waterloo Village - Water Supply System for Comfort Station
Hermitage House - Lighting Protection

Construction Projects Begun During FY77

Monmouth Battlefield State Park - Phase I Construction Plans (roads, parking, site utilities, planting, visitor center, and ancillary buildings) - completion date: October 1977
Liberty State Park - (Partial) Site Development - completion date: April 1978
Wawayanda State Park - Temporary Bathhouse Facilities - completion date: October 1977
Round Valley Recreation Area - Water Suppy Storage Facilities - completion date: October 1977
Batsto Village, Houses 4, 10, 18 - Mechanical Contracts - completion date: March 1978
Batsto Village, Utilities - completion date: November 1977

APPENDIX N

HISTORIC SITES ADDED TO NATIONAL REGISTER OF HISTORIC PLACES DURING FY77

Property	Municipality	County
Ivins-Conover Farm	Moorestown	Burlington
Ionic House (Dr. Barrow Mansion)	Jersey City	Hudson
Phillips Farm (Howell Farm)	Hopewell Twp.	Mercer
Battle Monument	Trenton	Mercer
First Presbyterian Church	Elizabeth	Union
Steamer "Alexander Hamilton"	Atlantic Highlands	Monmouth
Grimes Farm	Mountain Lakes	Morris
Buccleuch Mansion	New Brunswick	Middlesex
Bodo Otto House	East Greenwich Twp.	Gloucester
Abbott Farm Historic District	Hamilton Twp.	Mercer
T. Thomas Fortune House	Red Bank	Monmouth
Nathan Cooper Grist Mill	Chester Twp.	Morris
Sacred Heart Cathedral	Newark	Essex
Smith-Cadbury Mansion	Moorestown	Burlington
Cedar Grove School	Old Bridge Twp.	Middlesex
Church of the Presidents	Long Branch	Monmouth
Boisaubin Manor	Chatham Twp.	Morris
Huff House and Farmstead	Hillsborough Twp.	Somerset
Califon Historic District	Califon	Hunterdon
State House Historic District	Trenton	Mercer
Badgley House	Mountainside	Union
Millstone Historic District	Millstone	Somerset
Old Coast Guard Station	Galloway Twp.	Atlantic
Abbott-DeCou Mansion	Hamilton Twp.	Mercer
James Bishop House	New Brunswick	Middlesex
Union School House	Middletown Twp.	Monmouth
Walnford Historic District	Upper Freehold Twp.	Monmouth
Rockleigh Historic District	Rockleigh	Bergen