

# INTERSTATE SANITATION COMMISSION

*A TRI-STATE ENVIRONMENTAL AGENCY*

50 YEARS  
OF  
ENVIRONMENTAL PROGRESS



1986

ANNUAL REPORT

NEW YORK    NEW JERSEY    CONNECTICUT

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R E P O R T  
O F T H E  
I N T E R S T A T E S A N I T A T I O N C O M M I S S I O N

O N T H E  
W A T E R P O L L U T I O N C O N T R O L A C T I V I T I E S  
A N D T H E  
I N T E R S T A T E A I R P O L L U T I O N P R O G R A M

# INTERSTATE SANITATION COMMISSION

A TRI-STATE ENVIRONMENTAL AGENCY  
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January 23, 1987

To His Excellency, William A. O'Neill  
His Excellency, Thomas H. Kean  
His Excellency, Mario M. Cuomo  
and the Legislatures of the States of Connecticut,  
New Jersey, and New York

Your Excellencies:

The Interstate Sanitation Commission respectfully submits its report for the year 1986.

The members of the Commission are confident that with the continued support of the Governors and the members of the Legislatures, the Commission will maintain active and effective water and air pollution abatement programs.

Respectfully submitted,

For the State of Connecticut



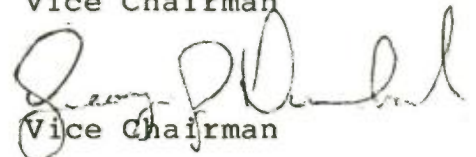
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Vice Chairman

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**STATEMENT OF THE CHAIRMAN  
ON THE  
50TH ANNIVERSARY  
OF THE  
INTERSTATE SANITATION COMMISSION**

In the 50 years since its creation in 1936, the Interstate Sanitation Commission has concerned itself with improving the environmental quality in the Tri-State Metropolitan Region. The Commission, which was originally comprised of the States of New York and New Jersey, was joined by the State of Connecticut in 1941. During the early years of its existence, the Commission was the only governmental body that had applicable water quality standards for the District. These standards and regulations have been periodically revised over the years in order to reflect the most recent scientific and technologic information. Throughout the 1930s, 1940s, and 1950s, the Commission issued enforcement orders for treatment plant construction that were to be the foundation for many municipalities' current treatment facilities.

In the late 1950s, the Commission published its Smoke and Air Pollution report and a supplement that identified the problems of the Region regarding interstate air pollution. As a result of this information, in 1962, after passage of supplemental statutes in New York and New Jersey, the Commission's air program began operation. Connecticut passed legislation mirroring that of New York and New Jersey in 1969, extending the Commission's air investigation and study authority into that State as well.

The first Air Pollution Warning System was put into operation in 1964 and, through coordination by the Commission, has been periodically updated and strengthened in the light of accumulating knowledge of air pollution abatement practices. In April 1970, the Commission was designated as the coordinating agency for the New Jersey-New York-Connecticut Air Quality Control Region under the federal Air Quality Act.

Since the late 1960s, the Commission has maintained 24-hour-a-day, 7-day-a-week response for air pollution complaints. To better serve the needs of the citizens by faster response to complaints, a field office was established on Staten Island in September 1982.

In recent years, the Commission has continued its investigatory mandate by monitoring discharges, sampling the waters of the District, and conducting field investigations based on air and water pollution complaints. A special Combined Sewer Overflow Study in the 1970s and the research for the updated and expanded Combined Sewer Overflow Study now in progress, have added to the information available on this significant pollution source in the District. The Commission's regulatory actions denying concurrence with applications for less than secondary treatment (301(h) waivers) and passage of the year-round disinfection requirement

were aimed specifically at further improving the waters of the District.

In addition to continuation of existing programs, the Commission's agenda for the future contains more work on toxic pollutants, as well as increased emphasis on enforcement of the Compact and Regulations. The Commission will also continue to coordinate action among the States and municipalities to address the combined sewer overflow problem on a regional basis to achieve the greatest water quality improvement with the funds available.

The Commission has been a leader during 50 years of progress in environmental awareness and pollution abatement in the Tri-State Region. The Commission looks forward to the next 50 years with enthusiasm and purpose to insure that the progress toward pollution-free air and water will continue.

A handwritten signature in black ink, appearing to read "J.P. Clark". The signature is fluid and cursive, with a large initial "J" and "P" and a stylized "C".

John P. Clark  
Chairman

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## I. SUMMARY OF ACTIVITIES

The Interstate Sanitation Commission was created in 1936 by a compact between the States of New York and New Jersey for the abatement of existing water pollution and the control of future water pollution in tidal waters of the New York Metropolitan Area. The State of Connecticut joined the Commission in 1941. In 1962, air pollution was added to the scope of the Commission's activities and in 1970 the Commission was designated as the official planning and coordinating agency for the New Jersey-New York-Connecticut Air Quality Control Region.

This report, which is prepared each year, provides a record of the water and air pollution activities of the Interstate Sanitation Commission. It focuses on technical assistance, planning, enforcement, monitoring, laboratory analyses, and coordination activities provided by the Commission which lead to the resolution or amelioration of environmental problems within the Commission's water and air pollution areas of jurisdiction.

### WATER POLLUTION

The Commission's activities in water pollution abatement provided assistance in the coordination of approaches to regional pollution problems. In the forefront of the water pollution activities were minimization of the effects of combined sewers, enforcement, upgrading classifications of several District waters, compliance monitoring, pretreatment of industrial wastes, participation in an ongoing study of Long Island Sound, ocean disposal, and toxics contamination.

Approximately \$3.53 billion has been allocated by various municipalities within the District for planning and construction projects, which are well under way, to provide a higher degree of quality for discharged wastewater.

In June, the Commission amended its Water Quality Regulations resulting in upgraded classifications for portions of the Hudson, East and Harlem Rivers. Appendix B contains the full text of the Commission's amended Water Quality Regulations.

As part of a stepped-up enforcement program, the Commission is involved in several legal actions, three of which were undertaken in 1986. Details are given in the Legal Activities section of this report.

ISC is well under way with a project to give a regional perspective to the combined sewer overflow problems that exist in the three member States.

The Commission continued to monitor waste discharges from public and private treatment plants to check compliance with the permitted discharge limitations. The waters of the District were sampled on a regular basis and an intensive water quality survey, in cooperation with the States of New York and New Jersey, is in progress.

In August, the Commission held a boat inspection trip in a portion of the Interstate Sanitation District to give government officials and the private sector a firsthand view of some of the environmental problems in the District.

The Commission was awarded a grant by the U.S. EPA to continue a background investigation and sampling in Long Island Sound. This project is part of a national estuarine program.

The laboratory has maintained its status as a certified laboratory. This year, the Commission was able to purchase a much-needed gas chromatograph/mass spectrophotometer for the laboratory. This piece of equipment greatly enhances ISC's ability to analyze toxic substances in both water and air samples. The laboratory continued to administer the practical examination to applicants for New York State Grades II and III Sewage Treatment Plant Operator Certification.

#### AIR POLLUTION

The Commission continued its role as coordinator of the High Air Pollution Alert and Warning System in the New Jersey-New York-Connecticut Air Quality Control Region. Daily air quality and meteorological data were received at the ISC office and transmitted to all participating agencies.

During the 12 months from October 1985 through September 1986, the Commission received 3,475 air pollution complaints -- an increase of 40% over the previous 12-month period. The majority of the calls came from Staten Island residents. In order to respond in a timely and effective manner, the Commission maintained its 24-hour answering service and its Staten Island field office, which is staffed seven days a week for at least one shift.

The Commission is expanding its odor identification training program. Its purpose is to get complainants to more precisely identify odors and, in turn, better assist the Commission's inspectors in their investigation of the sources of the pollution.

The Commission participated in public hearings related to various aspects of air quality, including hearings related to resource recovery facilities. ISC has stressed that a regionwide

perspective must be taken regarding these projects. The Commission has requested party status in the adjudicatory hearing for the resource recovery facility proposed for the Brooklyn Navy Yard. The Commission is also a member of a task force set up by the New York State Department of Environmental Conservation to study the affects that a proposed Perth Amboy, New Jersey hazardous waste incinerator may have on New York State.

## II. WATER POLLUTION

### GENERAL







During 1986, approximately \$3.53 billion was allocated for 145 water pollution control projects in the Interstate Sanitation District which were either completed, in progress, or planned for the future. These monies were allocated in the following manner: \$259 million for 38 completed projects, \$1.54 billion for 54 projects in progress, and \$1.73 billion for 53 future projects. These expenditures are being used for constructing new facilities and upgrading existing facilities in order to provide adequately treated effluents for discharge into District waters. These figures do not include the monies spent by industries for pollution control.

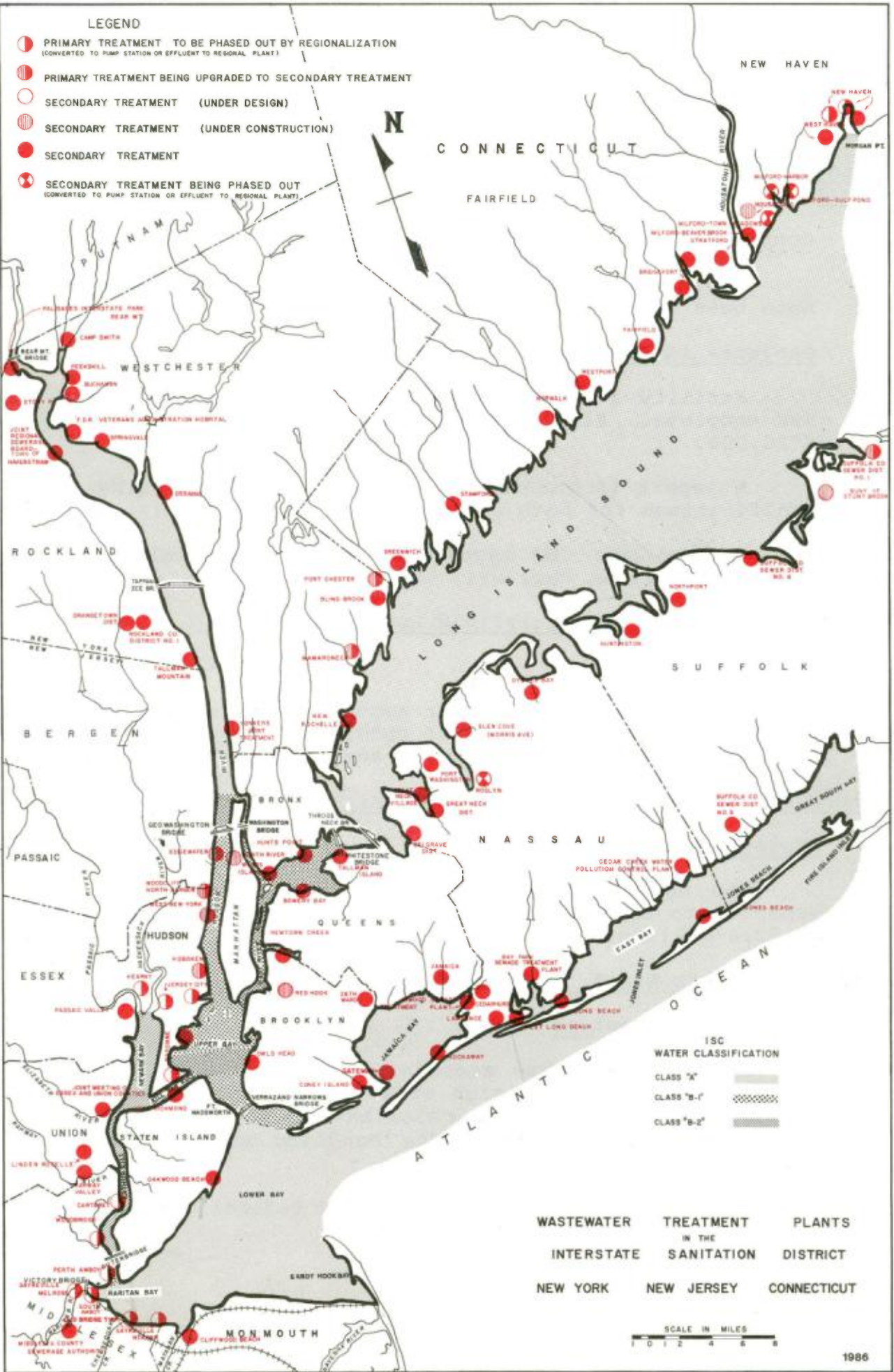
In the 50 years since the Commission was formed in 1936, the construction and expansion of primary and secondary treatment facilities has resulted in reduction of untreated sewage entering the District waters from 1,066 MGD to approximately 50 MGD. Although a few primary treatment plants still exist in the District, all are presently in the process of upgrading to secondary treatment or being phased out by regionalization. Whereas, in 1936 only 2 MGD of sewage received secondary treatment, 2,411 MGD presently receives that degree of treatment.

The Commission obtained the information on water pollution control projects presented in this section from officials in the representative state and local governmental agencies, sewerage authorities, and consulting engineering firms. The information in this section is that which was available through November 1986.




A map of the Interstate Sanitation District, on the following page, shows the locations of wastewater treatment plants which discharge into District waterways, the type of treatment and status of each plant, and the Commission's water classifications. Additional information on each plant is listed in Appendix A.

LEGEND

-  PRIMARY TREATMENT TO BE PHASED OUT BY REGIONALIZATION (CONVERTED TO PUMP STATION OR EFFLUENT TO REGIONAL PLANT)
-  PRIMARY TREATMENT BEING UPGRADED TO SECONDARY TREATMENT
-  SECONDARY TREATMENT (UNDER DESIGN)
-  SECONDARY TREATMENT (UNDER CONSTRUCTION)
-  SECONDARY TREATMENT
-  SECONDARY TREATMENT BEING PHASED OUT (CONVERTED TO PUMP STATION OR EFFLUENT TO REGIONAL PLANT)



ISC WATER CLASSIFICATION

CLASS "X"	
CLASS "B-1"	
CLASS "B-2"	

WASTEWATER TREATMENT PLANTS  
 INTERSTATE SANITATION DISTRICT  
 NEW YORK NEW JERSEY CONNECTICUT



## CONNECTICUT WATER POLLUTION CONTROL PLANTS

### Bridgeport - East Side and West Side Plants, Connecticut (Fairfield County)

#### Completed Project

New tide gates with a computerized monitoring system have been installed.

#### Projects in Progress

Facility plans for upgrading the existing plants are 70% complete. Final expenditures are expected to amount to \$720,000.

A report is due in the spring of 1987 regarding needed modifications for both plants.

A City-wide CSO assessment is approximately 85% complete. The final cost will amount to \$420,000.

### Fairfield, Connecticut (Fairfield County)

#### Completed Project

The Tollhouse Road sewer system extension was completed in December 1985 at a cost of \$890,000. The project included one pump station and gravity sewers to serve 80 homes.

### Greenwich, Connecticut (Fairfield County)

#### Project in Progress

The North Mianus sewer project is 80% complete and is expected to be finished by the end of 1986 at a total cost of \$2.4 million.

### Milford - Beaver Brook, Connecticut (New Haven County)

#### Projects in Progress

Upgrading of this secondary activated sludge plant is 90% complete. Installation of a new scum decanting facility, a belt filter press, chlorination units, an emergency generator building, and sludge handling modifications will cost approximately \$575,000.

This facility is under State and federal Consent Orders to attain secondary treatment levels.

For additional information, see the Milford - Housatonic write-up.

Milford - Gulf Pond, Connecticut (New Haven County)

Projects in Progress

This facility is under State and federal Consent Orders to attain secondary treatment levels.

For additional information, see the Milford - Housatonic write-up.

Milford - Harbor, Connecticut (New Haven County)

Projects in Progress

This facility is under State and federal Consent Orders to attain secondary treatment levels.

For additional information, see the Milford - Housatonic write-up.

Milford - Housatonic, Connecticut (New Haven County)

Projects in Progress

Construction is 92% complete at this new 8.3 MGD secondary activated sludge facility. An estimated \$16 million will be spent in order to put this plant on-line by the spring of 1987. At that time, flows from the Gulf Pond and Harbor areas will be diverted to this plant for treatment; flows from the Town Meadows area will be split for treatment between the Housatonic and Beaver Brook plants.

Additional contracts totalling \$16.3 million will include the installation of interceptor lines, force mains, five new pump stations, and rehabilitation of two existing pump stations. Pipe installation is 96% complete and construction of the pump stations is 79% complete.

This facility is under State and federal Consent Orders to attain secondary treatment levels. A final NPDES permit has been issued and includes ISC's effluent requirements.

Milford - Town Meadows, Connecticut (New Haven County)

Projects in Progress

This facility is under State and federal Consent Orders to attain secondary treatment levels.



For additional information, see the Milford - Housatonic write-up.

New Haven - Boulevard, Connecticut (New Haven County)

Projects in Progress

Conversion of this primary plant to a pump station was expected to begin in December 1986. The \$9.1 million project -- a 34 MGD pump station and inlet works -- is scheduled to be operational in June 1988. This facility is operating under a State Consent Order to attain secondary treatment levels.

See the New Haven - East Shore write-up for additional information.

New Haven - East Shore, Connecticut (New Haven County)

Project in Progress

Necessary modifications are being made in order to handle the eventual loadings from the Boulevard and East Street plants. This 40 MGD secondary activated sludge plant will be enhanced with new belt filter presses, lime stabilization, a polymer system, screenings and grit removal, as well as odor control equipment. Fifteen percent of the estimated \$8.5 million project is complete.

This plant is operating under a State Consent Order to attain secondary treatment levels.

New Haven - East Street, Connecticut (New Haven County)

Completed Project

This 20 MGD primary plant's pumping facilities went into service during February 1985. The flows have been diverted to the East Shore secondary plant. The pretreatment system, i.e. coarse and fine screens, aerated grit removal, odor control, etc., was put into service during February 1986.

Norwalk, Connecticut (Fairfield County)

Completed Project

A \$100,000 project, as per a Connecticut DEP Order to determine water pollution abatement, was completed and a report has been issued.

### Project in Progress

Replacement of four primary sludge pumps and a primary sludge cyclone degritting system is 85% complete. Final expenditures are estimated at \$340,000.

### Future Projects

An estimate of \$200,000 has been made for the renovation of two existing gravity thickeners and supporting equipment. A second project involves the construction of a pump station and associated laterals. No start-up dates for construction are presently available.

This facility is operating under a State Consent Order to attain secondary treatment levels.

## Stamford, Connecticut (Fairfield County)

### Completed Project

A \$35,000 engineering study evaluated treatment plant capacities and a report has been issued.

## West Haven, Connecticut (New Haven County)

### Projects in Progress

An I/I study is 70% complete. It is being performed in conjunction with the SSES, which is also approximately 70% complete.

### Future Project

An estimate of \$1.5 to \$2 million has been made for upgrading the dewatering and sludge handling facilities; equipment types are being considered. No construction start-up date has been set.

## Westport, Connecticut (Fairfield County)

### Future Projects

A final portion of the collection system rehabilitation project will go out to bid in the near future. The \$1.2 million project will address sewers and one pump station.

A \$600,000 proposed construction project will include a chlorine building and storage, a garage, a septic receiving and holding building, and water re-use facilities.

## NEW JERSEY WATER POLLUTION CONTROL PLANTS

### Aberdeen Township Municipal Utilities Authority - River Gardens, New Jersey (Monmouth County)

#### Future Project

A new pump station is to be built and all flows diverted to the 0.75 MGD secondary rapid bloc/aeration Cliffwood Beach plant. No cost estimates nor start-up construction dates are presently available. The project goes to bid in January 1987.

### Atlantic Highlands, New Jersey (Monmouth County)

See Atlantic Highlands/Highlands Regional Sewerage Authority write-up.

### Atlantic Highlands/Highlands Regional Sewerage Authority, New Jersey (Monmouth County)

#### Completed Projects

As of April 26, 1986, both the Borough of Atlantic Highlands and the Borough of Highlands diverted their flows for treatment to the Township of Middletown Sewerage Authority. The complex of new pump stations and force mains cost \$8,700,000. Each Borough will maintain the collection system within its jurisdiction. The Atlantic Highlands/Highlands Regional Sewerage Authority will be responsible for the operation and maintenance of the pump stations and force mains.

For additional information, see the Township of Middletown Sewerage Authority write-up.

### Bayonne, New Jersey (Hudson County)

#### Future Projects

The estimated cost to convert this primary facility to a pump station is \$23 million. The flow will join those of the Jersey City - East and West plants and will be treated at PVSC. A construction start-up date is anticipated for the spring of 1987.

This plant is operating under a federal Consent Order to attain secondary treatment or cease discharge by July 1, 1988.

The Commission and the U.S. EPA are presently involved in litigation against Bayonne to ensure compliance with ISC and federal requirements. For further information, refer to the Legal Activities section of this report.

Bayshore Regional Sewerage Authority, New Jersey  
(Monmouth County)

Future Project

A re-estimate of \$2 million has been made for the replacement of mechanical aerators with fine bubble diffusers. The anticipated start-up date for construction is March 1987.

Carteret, New Jersey (Middlesex County)

Completed Project

Structural repairs, as well as replacement of the plant's sludge hopper, were completed at a total cost of approximately \$150,000.

Projects in Progress

Currently, there are two federally-funded projects under way. The first is the CSO Elimination Program which began October 22, 1986 and will continue for about 18 months. In addition to the separation of the combined sewers, one pump station will be completely rehabilitated. The total project cost is about \$8.873 million, of which the federal government's share is 55%.

The second project involves pump station/force main installation. A preliminary estimate of \$7 to \$8 million has been made for the conveyance of all Carteret sewage flows through Woodbridge for treatment at MCUA. Construction is scheduled to last 18 months. The construction start-up date has not yet been set.

See the MCUA and Woodbridge write-ups for additional information.

Edgewater, New Jersey (Bergen County)

Future Projects

An estimate of \$1.6 million was made for rehabilitation of pump stations, regulators, and sewer lines; no start-up date is presently available.

The Borough of Edgewater's expanding waterfront community on the Hudson River will demand a larger, upgraded sewage treatment plant. Negotiations are under way for design, construction, and subsequent operation of a 6 MGD secondary treatment plant estimated to cost over \$8.2 million. Initial contracts were expected to be signed in the fall of 1986.

#### Highlands, New Jersey (Monmouth County)

See the Atlantic Highlands/Highlands Regional Sewerage Authority write-up.

#### Hoboken, New Jersey (Hudson County)

##### Future Projects

The Updated 201 Wastewater Facilities Plan for HCUA Area III details the selected plan for Hoboken. The plan chosen for this municipality is to upgrade the existing primary facility to secondary treatment with a design flow of 23.05 MGD. The expanded plant will also provide secondary treatment for portions of Union City and Weehawken.

The Commission and the U.S. EPA are presently involved in litigation against Hoboken to ensure compliance with ISC and federal requirements. For further information, refer to the Legal Activities section of this report.

#### Hudson County Utilities Authority, New Jersey (Hudson County)

##### Projects in Progress

Three drainage basins are in the HCUA's jurisdiction -- Area I consists of Jersey City (East and West), western North Bergen, Kearny Point, the western slope of Union City and Secaucus; Area II is comprised of Bayonne; and Area III is composed of Hoboken, Weehawken, eastern Union City, West New York, Guttenberg, and part of North Bergen.

Refer to each municipality's write-up for more detailed information.

The Commission and the U.S. EPA are presently involved in litigation against the Hudson County Utilities Authority to ensure compliance with ISC and federal requirements. For further information, refer to the Legal Activities section of this report.

Jersey City - East, New Jersey (Hudson County)

Completed Project

Tide gate and regulator rehabilitation is 100% complete. The improvements, costing \$1.2 million, include those made for the Jersey City - West plant as well.

Future Projects

Both East and West plants are under federal and State Consent Orders to complete construction and cease discharge by July 1, 1988. The flows are to be diverted to the PVSC plant for treatment.

For additional information, refer to the PVSC write-up.

The Commission and the U.S. EPA are presently involved in litigation against Jersey City to ensure compliance with ISC and federal requirements. For further information, refer to the Legal Activities section of this report.

Jersey City - West, New Jersey (Hudson County)

See the Jersey City - East and PVSC write-ups for information.

Kearny, New Jersey (Hudson County)

Future Project

It is planned that this facility divert all flows to the PVSC treatment plant. Federal and State Consent Orders have set compliance schedules; August 31, 1987 is the date for all discharges to cease.

Middlesex County Utilities Authority, New Jersey (Middlesex County)

Future Projects

MCUA will be the recipient of additional wastewater flows from three communities which comprise the South Bay Project. The total cost will be \$12 million with the work scheduled to begin in February 1987. Eventually, 3 MGD of flows will be eliminated from the existing primary plants at Old Bridge Municipal Utilities Authority, Sayreville (Melrose and Morgan), and South Amboy.

The sewage from Carteret, Perth Amboy, and Woodbridge, a combined flow of about 12 MGD, is also scheduled for

treatment at the MCUA plant. Refer to the individual community write-ups for additional information and cost estimates.

Middletown Sewerage Authority, Township of, New Jersey  
(Monmouth County)

Completed Projects

Approximately \$150,000 was spent for process and design studies.

The secondary activated sludge plant was expanded from a capacity of 6.5 MGD to 10.3 MGD at a cost of \$5.8 million. New raw sewage pumps and controls, a gravity thickener, two additional primary and one final settling tank, high rate aerators, new pumps and a new generator were installed. Modifications were made to the chlorine contact tank. When the expansion work was completed in April 1986, all flows from the Boroughs of Atlantic Highlands and Highlands were diverted to this plant for treatment.

See the Atlantic Highlands/Highlands Regional Sewerage Authority write-up for additional information.

North Bergen Utilities Authority - Woodcliff Plant, New Jersey  
(Hudson County)

Future Projects

This facility is required to meet final NJPDES secondary effluent limitations by June 1, 1988. An \$8,000,000 secondary treatment plant with a capacity of 2.91 MGD has been proposed. New units to be installed include mechanical bar screens, vortex grit chambers, comminutors, primary clarifiers, a pump station, plate settlers, a chlorination contact tank, and trickling filters.

The Commission and the U.S. EPA are presently involved in litigation against North Bergen to ensure compliance with ISC and federal requirements. For further information, refer to the Legal Activities section of this report.

Old Bridge Municipal Utilities Authority, New Jersey  
(Middlesex County)

Future Project

This primary facility is under a federal Consent Order to discontinue discharging and divert all flows to MCUA by

September 30, 1987. To accomplish this, the facility will be converted to a pump station and all flows will be conveyed by force main to MCUA. Plant abandonment is anticipated by June 30, 1988.

For more information, refer to the MCUA write-up.

Passaic Valley Sewerage Commissioners, New Jersey (Essex County)

Completed Project

Construction of the primary clarifiers is 100% complete; the twelve units were put on-line during December 1985. The final cost of the project was \$75 million.

Projects in Progress

Several communities in the PVSC service district have almost completed all pump station and force main work in order to divert flows for treatment at the PVSC facility. Final hook-ups include the municipalities of Fairfield, Little Falls, Lyndhurst, North Arlington, North Haledon, Totowa, and West Paterson.

Future Projects

PVSC's service area will incorporate the flows from Bayonne, Jersey City, South Kearny, and Union City. These projects are expected to go to bid in early 1987. Estimated completion dates for all work is anticipated for July 1, 1988. Cost estimates for Bayonne and Jersey City (East and West plants) are \$23 million and \$40 million, respectively.

Headworks rehabilitation, at a cost of \$3 million, is expected to be completed by early 1988.

Rahway Valley Sewerage Authority, New Jersey (Middlesex County)

Project in Progress

Seventy percent of a \$1.8 million upgrade is complete. On the construction agenda is the installation of a new boiler; two raw sewage pump engines; and systems for aeration, a fine bubble diffuser, and digester gas conditioning.



Sayreville - Melrose and Morgan Plants, New Jersey  
(Middlesex County)

Completed Project

The 201 Facilities Plan supplement prepared for NJ DEP and U.S. EPA was recently approved by the State. Funding will be made available for conversion to a pump station.

Future Projects

As of November 1986, U.S. EPA grants amounting to 55% of the total cost for two separate projects were awarded. Under the first \$10.3 million project, a gravity interceptor and force main from the Morgan area of Sayreville will be constructed in order to convey wastewater to MCUA. In addition, a pump station will be constructed at the South Amboy primary treatment site and those flows will be treated at MCUA as well.

The second project, costing \$1.9 million, will consist of two pump stations to be constructed at the existing Melrose and Morgan sites with the associated force mains.

These primary facilities are under State Consent Orders to complete necessary construction and cease discharge by September 30, 1987.

Refer to the MCUA write-up for additional information.

South Amboy, New Jersey (Middlesex County)

Future Project

The South Amboy 1.0 MGD primary plant will be phased out and be replaced by a pump station. The facility is operating under a State Consent Order to complete construction and cease discharge by September 30, 1987.

Refer to the MCUA write-up for additional information.

West New York, New Jersey (Hudson County)

Future Projects

An estimated \$18 million will be needed to upgrade this facility to secondary treatment. Major units to be installed include mechanical bar screens, vortex grit chambers, rotating microscreens, trickling filters, a pump station, and chlorination and sludge stabilization systems. The attainment of secondary treatment levels is scheduled

for July 1988.

The Commission and the U.S. EPA are presently involved in litigation against West New York to ensure compliance with ISC and federal requirements. For further information, refer to the Legal Activities section of this report.

Woodbridge, New Jersey (Middlesex County)

Future Project

An estimated \$60 million has been proposed for Woodbridge's conversion to a pump and relay station for its own flow, as well as those from Carteret and Perth Amboy. The estimated cost includes pump stations, force mains, and interceptor sewers to convey all flows to the MUA facility for treatment. An operational start-up date has been given as July 1988. This plant is under federal and State Consent Orders to cease discharge.

## NEW YORK WATER POLLUTION CONTROL PLANTS

### Arthur Kill Correctional Facility, New York (Richmond County)

#### Completed Project

Three surge tanks with accompanying piping were installed at a final cost of \$68,000. The tanks were needed to help accommodate excess volume during peak flows.

### Bay Park Sewage Treatment Plant - Disposal District No. 2, New York (Nassau County)

#### Completed Projects

The Cedar Creek to Bay Park Sludge Force Main Improvements Study is complete. The \$168,500 study addressed interim sludge thickening improvements prior to ultimate disposal.

A draft report on I/I was completed and issued to the County in October 1986. The investigation found no extraneous flow and only minor recycle flow within the plant. In addition, a more accurate method of flow monitoring was established for the plant.

#### Projects in Progress

Phase I construction to expand this facility to 70 MGD is 90% complete. The estimated \$22.7 million cost includes five aerobic fluidized bed reactors and two final clarifiers.

Phase II construction, which deals with the plant's headworks, is 53% complete. The installation of new bar screens, grit tanks, two main sewage pumps, odor control equipment and scavenger waste disposal facilities are expected to cost \$14.7 million.

Phase IIIA construction is 13% complete. This portion of the plant expansion work includes additions and modifications to the secondary treatment facilities; the estimated cost is \$58 million.

#### Future Projects

Three final phases of construction upgrading have yet to begin. Phase IIIB construction addresses main equipment building modifications and has an estimated cost of \$21 million. Phase IIIC construction is expected to cost \$35 mil-

lion and includes the power generation facilities. Phase IV construction is expected to be further segmented based on annual grant allotments. This final phase will include new primary settling tanks, sludge handling equipment, piping improvements, sludge barge loading dock improvements, a plant process monitoring/control computer system, and an interplant communication system. A cost of nearly \$39 million was estimated for this phase.

The facility is operating under a State Consent Order to attain secondary treatment effluent permit levels by July 1, 1988.

Belgrave Water Pollution Control District, New York  
(Nassau County)

Future Projects

It is planned to convert the disinfection process from liquid chlorine to hypochlorite. No start-up date has been announced for constructing a new building to house tanks and supporting equipment. In addition, a laboratory modernization program will be instituted. A cost estimate of \$300,000 for all planned work has been made.

A U.S. EPA grant was awarded in February 1986 for general upgrading at this secondary facility. The improvements under the Northwest Nassau Sewage Treatment Project will have a total cost of nearly \$2.36 million, of which the U.S. EPA will contribute 55%.

Bowery Bay, New York (Queens County)

Completed Project

An I/I study was completed and a report issued.

Project in Progress

Phase I of a City-wide combined sewer overflow study has been completed. The final Phase I report is to be issued shortly. The objectives of this project are to identify and assess combined sewer overflows which result in contravention of water quality standards and plan for an abatement program to eliminate those contraventions. The study and abatement program is being conducted in accordance with SPDES requirements for each of the 14 facility planning areas in New York City. In Phase II of this study, the City will be divided into four areas and facilities planning for each area will be developed.

## Future Projects

An SSES is planned as a result of the aforementioned I/I study.

A construction start-up date for rehabilitation and upgrading of this plant was unavailable. An estimated \$11.5 million will be needed to complete the work.

## Camp Smith, New York (Westchester County)

### Project in Progress

An engineering study to address the rehabilitation of all plant controls and meters is 10% complete.

## Cedar Creek Water Pollution Control Plant - Disposal District No. 3, New York (Nassau County)

### Projects in Progress

Several construction phases are under way for upgrading and expanding this 45 MGD secondary activated sludge plant to a design capacity of 56 MGD. A \$4.8 million phase of the project is 92% complete and includes construction of a security house, records storage, cold storage, and diesel maintenance buildings. Modifications are being made to the potable water supply and to the fire protection and suppression systems. The existing main electrical substation and engine generators' fuel oil system are also included in this phase.

A secondary digester conversion into a primary digester and provisions for a gas withdrawal system are 90% complete. Final expenditures are expected to amount to \$3 million.

Construction of three aeration tanks, six final settling tanks, and a return activated sludge pump station are 42% complete. This \$45 million phase also includes the installation of odor control units, thickeners, primary sedimentation buildings, two raw sewage pumps, two outfall pumps, and modifications to the aeration system.

Construction of a new power generation facility began in October 1986 and will cost \$32 million.

### Future Project

Three additional construction phases will be implemented to further increase the plant capacity to 76 MGD. A total of \$80 million will be spent on new air flotation thick-

eners, odor control, digesters, influent screens, a grit tank, a hypochlorite system, primary and final settling tanks, and a return activated sludge pump. Rehabilitation work will concentrate on primary digesters, influent screening equipment, and grit handling equipment. Replacement of four original process air blowers and retrofitting the existing air diffusers with fine bubble diffusers will be the final construction phase.

This plant is operating under a State Consent Order to attain secondary treatment by June 30, 1988.

#### Coney Island, New York (Kings County)

##### Completed Project

An SSES was completed and the report is under review by NYS DEC.

##### Projects in Progress

A water quality facility plan for Paerdegat Basin in Jamaica Bay has just begun.

Work is nearly 65% complete on the rehabilitative work at this plant. The \$193 million job includes primary settling tanks, plant maintenance and grit removal facilities, a sludge force main and an engine generator.

See the Bowery Bay write-up for information on the City-wide CSO project.

##### Future Project

An application has been submitted for the remaining construction. An approximate start-up of operations is expected in 1994. The \$318 million application covers aeration and final settling tanks, thickeners, new main pumps, and process blowers.

#### Gateway National Recreational Area (Floyd Bennett Field), New York (Kings County)

##### Completed Project

At a final cost of \$5100, an ejector pump was rebuilt and three discharge check valves were replaced.

## Great Neck, Village of, New York (Nassau County)

### Completed Project

A Phase II 201 Facilities Design Plan is 99% complete and a report has been issued.

### Future Projects

This facility is operating under a State Consent Order to attain secondary treatment limitations. To address the Consent Order, a sand filter will be installed at an estimated cost of \$3 million.

In February 1986, the Village of Great Neck received a federal grant for 55% of a \$4.78 million project as part of the Northwest Nassau Sewage Treatment Facilities Project. In order to improve surface water quality and assure secondary treatment standards there will be sewer system rehabilitation, force main replacement, and the construction of a combined outfall for the Village of Great Neck and the Great Neck Water Pollution Control District. The combined discharge will be located further north in Manhasset Bay than the existing outfall and thus enable better dispersion.

## Great Neck Water Pollution Control District, New York (Nassau County)

### Future Projects

It is planned that this facility be expanded to a design flow of 3.8 MGD. A re-estimated cost of nearly \$15 million has been made in order to install new headworks, primary and final settling tanks, a new trickling filter, a gas storage tank, a chlorine contact tank, and an outfall. Construction is scheduled to begin in 1988.

Proposed sewer system upgrading has an estimated cost of over \$4 million. The project includes three pump stations, force mains, gravity sewers, and interceptors. This project is also expected to begin in 1988.

To ensure improved surface water quality and the attainment of secondary treatment levels, the District was awarded a grant from the U.S. EPA as part of the Northwest Nassau Sewage Treatment Facilities Project. In addition to the aforementioned capacity expansion and sewer system rehabilitation, one pump station will be expanded and one pump station and its accompanying force main will be installed. The new pump station will convey flows to the Village of Great Neck to discharge via a combined outfall. The award

amounts to over \$8.91 million of a total project cost of \$16.2 million.

Huntington Sewer District, New York (Suffolk County)

Completed Project

Approximately \$670,000 was spent to install 4,400 linear feet of gravity sewers.

Projects in Progress

Forty-five percent of the construction upgrade and capacity expansion is complete. The nearly \$13 million project consists of bar racks, belt filter presses, grit chambers, biodiscs, chemical storage facilities, a chlorine contact tank, clarifiers, a digester, equalization tanks, flash mix and flocculation tanks, a gravity thickener, primary and secondary settling tanks, screw pumps, a trickling filter, and a scavenger waste pretreatment process.

This facility is operating under a State Consent Order to attain secondary treatment.

Hunts Point, New York (Bronx County)

Projects in Progress

An I/I study is 93% complete.

See the Bowery Bay write-up for information on the City-wide CSO project.

Future Projects

A water quality study is planned.

A construction start-up date is not available for rehabilitative work estimated to cost \$23 million.

Inwood Water Pollution Control Plant - Disposal District No. 1, New York (Nassau County)

Completed Project

A final cost of \$158,500 was incurred for a study to determine this facility's future. Design criteria reports addressed the existing conditions and the cost-effectiveness of making improvements for continued operation. In lieu of rehabilitation, a pump station conversion was considered whereby diverted flows would be treated at the Bay Park fa-



cility.

#### Project in Progress

This facility is currently operating under a State Consent Order to meet secondary effluent limitations by July 1, 1988. Presently, the plant is undergoing phased construction improvements; this construction work began in November 1986. The improvements include new trickling filter flow distribution arms, a new hypochlorination system, new screening or a comminuting device, and rehabilitation of existing tankage. Cost estimates are not presently available.

#### Jamaica, New York (Queens County)

##### Project in Progress

See the Bowery Bay write-up for information on the City-wide CSO project.

#### Lawrence, New York (Nassau County)

##### Completed Project

An I/I study was completed. Results of the study recommended that no major sewer repairs should be made because of the small amount of infiltration.

#### Long Beach Water Pollution Control Plant, New York (Nassau County)

##### Future Projects

Cost estimates and design plans for upgrading this facility are being held in abeyance. Long Beach is considering privatization in lieu of its own expansion program.

A proposed construction start-up date of late 1987 has been made for pump station rehabilitation at an estimated cost of \$100,000.

#### Mamaroneck, New York (Westchester County)

##### Completed Projects

Two engineering studies were completed this year at a combined cost of \$3.825 million. Reports were issued for both the Step II Facilities Plan and an SSES.

### Project in Progress

Construction of force mains and pump stations is 90% complete; this is a \$3 million project.

### Future Projects

An estimated \$14 million will be spent over the next three years to rehabilitate sewers and interceptors.

March 1993 is the projected start-up date for operation of a 20.6 MGD secondary activated sludge plant. Mamaroneck is operating under a State Consent Order to attain secondary treatment. The \$116 million upgraded plant will consist of preliminary, primary, and secondary treatment facilities, and a new outfall pipeline.

The sewer rehabilitation and treatment plant upgrading projects will receive 55% funding from the federal government.

## Metro-North Commuter Railroad (Harmon Shop), New York (Westchester County)

### Project in Progress

The Metro-North Commuter Railroad, in response to a complaint filed by NYS DEC, will institute a hazardous waste study starting in early 1987. Funding for disposal and/or containment of waste oils, solvents, and PCBs is slated for 1988.

## New Rochelle, New York (Westchester County)

### Completed Project

Installation of two belt filter presses is 100% complete. The sludge dewatering upgrade cost \$1.2 million.

### Future Project

New Rochelle is under a State Consent Order to remove overflows as stated in the SSES. Work is scheduled to begin in March 1987.

## Newtown Creek, New York (Kings County)

### Projects in Progress

A water quality facility plan for Newtown Creek is in progress.

See the Bowery Bay write-up for information on the City-wide CSO project.

#### Future Project

A municipal compliance plan has been prepared for implementation; no start-up date is presently available. An estimated cost of \$100 million is anticipated to modify the present process by incorporating step aeration with reduced contact time.

#### Northport, New York (Suffolk County)

##### Completed Projects

An I/I study is complete. Based on the findings of this study, a \$500,000 sewer replacement project was finished.

#### North River, New York (New York County)

##### Completed Project

North River's collection system was completed in December 1985.

##### Projects in Progress

An SSES is 85% complete and an updated report was issued.

The construction of all advanced preliminary treatment facilities is 95.8% complete. The plant started accepting flows for treatment in April 1986 and is providing screening, grit removal, settling, disinfection, and sludge removal. The costs incurred so far for this treatment phase are approximately \$340 million.

Construction of the secondary treatment facilities is 14.2% complete. This phase is estimated to cost \$207.2 million and is expected to be operational by July 1, 1989.

See the Bowery Bay write-up for information on the City-wide CSO project.

##### Future Project

Funding approval for the rooftop park is pending. Construction is expected to begin in early 1987.

Oakwood Beach, New York (Richmond County)

Completed Projects

The Richmond Hill Road to Eltingville interceptor, as well as the structures for two pump stations are complete.

Projects in Progress

An I/I study for this drainage area is 70% complete.

Work on the West Branch interceptor system is in progress.

See the Bowery Bay write-up for information on the City-wide CSO project.

Future Projects

A report entitled "Final Environmental Impact Statement for the Oakwood Beach Water Pollution Project" was released by the U.S. EPA in September 1986. The report recommends a gravity sewer line with two pump stations to convey wastewater from the unsewered areas of southern Staten Island. The \$129 million project would begin in February 1987 and has an expected completion date of April 1992 or 1993.

Effective January 3, 1987, a sewer connection moratorium will be in effect on the overflow outfall sewers within the Oakwood Beach WPCP drainage area. The moratorium applies to all connections except those from sources providing a minimum of secondary treatment and year-round disinfection, and only if the outfall is completely submerged during mean low tide and includes diffusion facilities.

Orange and Rockland Utilities, New York (Rockland County)

Projects in Progress

Design work for the reconversion of two major units to coal is 90% complete.

Construction is 95% complete on the upgrading of the 0.012 MGD sewage treatment plant. The final stage of work includes placement of silencers on the blowers.

Future Project

A start-up date for the coal reconversion project has not been set. The work will include two new flue gas lines, a 475-foot dual flue cooling tower, precipitators, and coal

treatment and handling facilities. An estimate of \$200 million was made for all construction and equipment.

Orangetown Sewer District, New York (Rockland County)

Completed Project

Approximately \$350,000 was spent to install a belt dewatering process.

Owls Head, New York (Kings County)

Completed Project

An SSES is complete and a report has been issued.

Projects in Progress

Construction upgrading is 53.2% complete. Installation of a sludge processing complex, pump and power houses, and an engine generator and auxiliaries is estimated to cost \$135 million.

See the Bowery Bay write-up for information on the City-wide CSO project.

Future Project

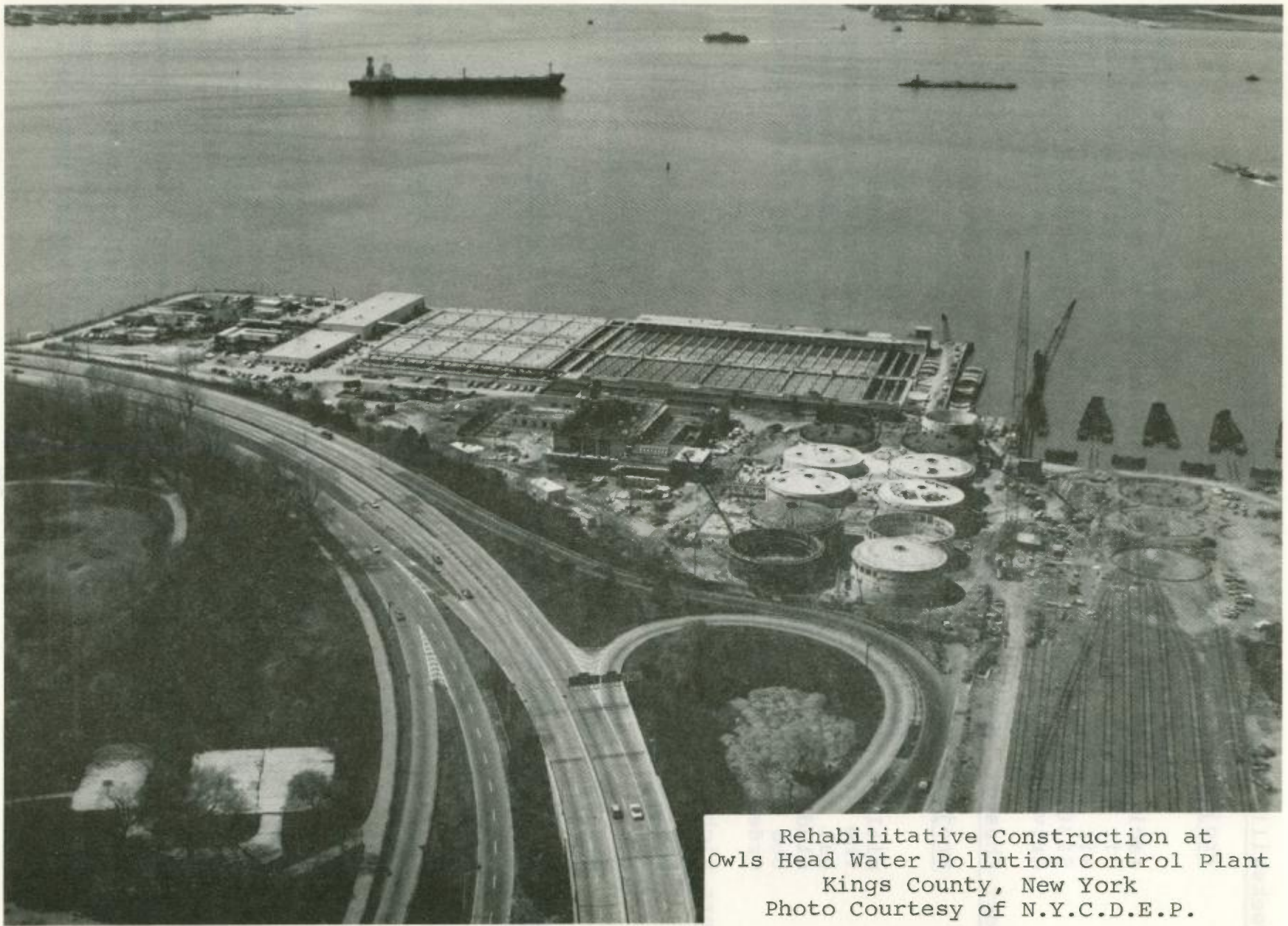
Operation at secondary treatment levels is anticipated for 1995. The \$365 million project will include primary tanks, chlorination tanks, final settling tanks, an outfall, and demolition of the old aeration tanks.

Oyster Bay Sewer District, New York (Nassau County)

Projects in Progress

A Step I 201 Facilities Plan has been started for this sewer district.

Plant rehabilitation work is on schedule and is planned to be completed by the spring of 1987. New equipment being installed under this project includes gas production and use meters, chlorinators, a chlorine detector, nine valves, and a sludge heat exchanger. An estimate of \$160,000 has been made for this work.



Rehabilitative Construction at  
Owls Head Water Pollution Control Plant  
Kings County, New York  
Photo Courtesy of N.Y.C.D.E.P.

Peekskill, New York (Westchester County)

Project in Progress

Rehabilitative work at this secondary activated sludge facility is 75% complete. Installation of one small process air blower (125 HP) and conversion of an existing process air blower (from 400 HP to 200 HP) is expected to cost \$230,000. Both units will be powered by variable frequency drives, controlled directly by dissolved oxygen analyzers.

Port Chester, New York (Westchester County)

Project in Progress

Construction costs have been re-estimated to over \$42.5 million to build a 5.5 MGD secondary treatment facility. The work is 15% complete and will include rotating biological contactors, two final settling tanks, primary and waste sludge gravity thickeners, centrifuge dewatering, and fluid bed furnaces. This plant is under federal and State Consent Orders to achieve secondary treatment.

Port Richmond, New York (Richmond County)

Project in Progress

See the Bowery Bay write-up for information on the City-wide CSO project.

Port Washington Water Pollution Control District, New York (Nassau County)

Completed Project

An industrial waste survey update was completed and a report was issued.

Future Projects

Early 1989 is the start-up date for expansion of this facility to a 4 MGD trickling filter plant. The re-estimated \$9.5 million project will include new primary clarifiers, a trickling filter, a secondary clarifier, a sand filter, a chlorine contact tank, and a sludge dewatering system.

Under the auspices of the Northwest Nassau Sewage Treatment Facilities Project, Port Washington received a grant for 55% (\$11.88 million) of the total project cost of \$21.6 million. Besides the aforementioned capacity expansion, the project will include two pump station upgrades, a

new pump station, and an outfall diffuser.

### Red Hook, New York (Kings County)

#### Completed Projects

Three interceptors, a small pump station, and foundation and structural work on the plant, as well as primary and chlorination facilities are complete. The final cost for this work was \$156 million.

Step II 201 Facilities Design plans for secondary treatment phases of the plant are complete.

#### Projects in Progress

Eight phases of construction at this new 60 MGD activated sludge plant are collectively 65% complete. Costs amounting to \$145.8 million provide for structures and equipment at the main building, HVAC and electrical installation, sludge handling facilities, and secondary treatment equipment and structures.

A total of \$31.62 million will be spent for the Red Hook collection system. Five contracts covering an interceptor, a regulator and tide gate chamber, a force main, and the Gowanus Canal pump station are 25% complete. Included in the aforementioned contracts are a new service wing and garage; upgrading of mechanical, electrical, HVAC, and plumbing systems; and renovation of tide gates.

The Red Hook facility is under federal and State Consent Orders to provide advanced preliminary treatment by April 1, 1987 and attain operational secondary treatment levels by June 1, 1989. To date, this project is on or ahead of schedule in accordance with the municipal compliance plan.

See the Bowery Bay write-up for information on the City-wide CSO project.

### Rockaway, New York (Queens County)

#### Project in Progress

See the Bowery Bay write-up for information on the City-wide CSO project.



Rockland County Sewer District #1, New York (Rockland County)

Projects in Progress

Thirty-five percent of the upgrading and expansion of this plant from 10 to 26 MGD is complete. The \$152 million project (including the collection system expenditures) will incorporate a new aerated grit chamber, additional chlorination facilities, digester gas co-generation facilities, modified digesters, odor control units, eight additional primary and secondary clarifiers, 80 RBC units, and a sludge dewatering building.

An extensive collection system expansion project for northern and western Rockland County is 25% complete. The new pump stations will utilize rail-mounted submersible pumps. In addition, a microcomputer alarm and monitoring system will be installed.

Roslyn, New York (Nassau County)

Completed Project

The most cost-effective and environmentally sound alternative for addressing the Roslyn treatment plant's need for capacity expansion and upgrading was for Nassau County to convey all flows to the Cedar Creek facility on the south shore of Long Island. Installation of force main and gravity sewers was completed on February 1, 1985, at a cost of approximately \$1.3 million.

Project in Progress

Nassau County is presently building a pump station which is approximately 65% complete. The cost estimate for this project is over \$2.4 million. It is anticipated that operations will begin in April 1987. At that time, the Roslyn facility will cease discharge.

Suffolk County Sewer District #1, Port Jefferson, New York (Suffolk County)

Projects in Progress

Construction has begun for conversion of this primary plant to a 0.75 MGD secondary facility incorporating rotating biological discs. This estimated \$6 million project is 1% complete.

Construction of a new pump station is 70% complete. Upgrading and expansion of portions of the collection system

have gone to bid. A new force main is complete. The estimate for all the sewer system improvements is \$2 million.

Suffolk County Sewer District #1, S.U.N.Y., New York  
(Suffolk County)

Projects in Progress

Ground clearing (10% of the entire project) is complete. Construction of a 2.5 MGD secondary treatment facility is expected to be completed in early 1989. This \$13 million project includes a main control building with all supporting equipment, a maintenance section, and odor control capabilities. A new effluent force main will be installed and connected to the Port Jefferson Harbor outfall.

This facility is under a State Consent Order to attain secondary treatment.

Suffolk County Sewer District #3, Bergen Point, New York  
(Suffolk County)

Projects in Progress

One of three new belt filter presses for dewatering and conditioning has been installed as part of this facility's sludge treatment process. Building modifications for housing the subsequent presses are still needed. An anticipated completion date is spring 1987.

An internal odor control program was instituted on June 30, 1986, utilizing potassium permanganate and pre-chlorination. This program has reduced odor problems, as well as being cost-effective.

An estimated \$3.8 million will cover construction modifications, as well as expenditures already incurred for the sludge treatment and odor control studies which were completed in 1985.

Suffolk County Sewer District #6, Kings Park, New York  
(Suffolk County)

Projects in Progress

An engineering study is still under way to determine sludge processes and handling. An additional study has been implemented in order to determine dewatering and equipment requirements for this facility. No cost estimates are presently available.

Tallman Island, New York (Queens County)

Completed Project

An I/I study is complete and a report has been issued.

Project in Progress

See the Bowery Bay write-up for information on the City-wide CSO project.

26th Ward, New York (Kings County)

Project in Progress

See the Bowery Bay write-up for information on the City-wide CSO project.

Wards Island, New York (New York County)

Completed Project

An I/I study is complete and a report has been issued.

Project in Progress

See the Bowery Bay write-up for information on the City-wide CSO project.

West Long Beach Sewer District, New York (Nassau County)

Completed Projects

Construction and rehabilitation work at this 1.5 MGD trickling filter plant is complete. The \$2.915 million project included new digester equipment, a new emergency generator, an influent lift station, new pumps, and a new chlorine contact tank.

Improvements to the collection system (rehabilitation of the three pump stations) were completed at a cost of \$870,000.

## EFFLUENT AND AMBIENT WATER QUALITY MONITORING

The Commission continued its effluent and ambient water quality monitoring programs throughout the District during this past year. ISC field personnel conducted inspections and samplings at wastewater treatment facilities and industries discharging into District waters. Boats and helicopters were used to conduct surveys of the receiving waters. An intensive water quality survey is in progress and is described elsewhere in this report. The data and reports are furnished to the appropriate federal, state, and municipal agencies.

The Commission laboratory maintained its permanent New Jersey wastewater laboratory certification and was certified by the New York State Department of Health under its newly-adopted laboratory certification program. The Commission's laboratory and field personnel, in cooperation with the NYS DEC, proctored written and administered practical examinations to applicants for Sewage Treatment Plant Operators' Certification, Grades II and III. The laboratory continued to participate in the U.S. EPA Water Pollution Laboratory Evaluation Program and Water Supply Microbiology Performance Evaluation Study and is in conformance with the procedures recommended by the U.S. Food and Drug Administration.

This year the Commission was able to purchase a gas chromatograph/mass spectrophotometer (GC/MS). The addition of a GC/MS greatly enhances the Commission's ability to measure toxic substances. The GC/MS was delivered at the end of 1986 and will be operational in early 1987. The Commission will now be able to measure all the priority pollutants in water and sediment samples, as well as toxic substances in the ambient air.

### Effluent Monitoring

The Commission's effluent monitoring program during the past year involved inspections, samplings, and sample analyses at publicly-owned and privately-owned wastewater treatment plants and industries that discharge into District waterways. Each investigation includes a review of the plant records, visual inspection of the treatment processes and equipment, and laboratory analyses of samples taken. As per the ISC workplan, there has been a shift in the effluent sampling program. More industrial dischargers are being sampled than in the past and fewer samplings are being conducted at municipal wastewater treatment facilities. However, each municipal facility is still being inspected and sampled at least once per year. The Commission's effluent sampling program has been coordinated with those of the State environmental departments and the U.S. EPA.

In cooperation with, and on various occasions at the request

of, the U.S. EPA and the member State environmental departments, specific industries are inspected to determine compliance with their N/SPDES permit limitations. Depending upon individual industrial production schedules, sampling is done either for a 24-hour period or for a full day's production, if less than 24 hours.

### Ambient Water Quality Monitoring

Water quality surveys were conducted at 52 stations in March, July, August, and September using the U.S. EPA helicopter or a boat chartered from the New Jersey Marine Sciences Consortium. Samples are analyzed for a full range of parameters including nutrients, metals, coliforms, and oil and grease. All parameters are measured five feet below the surface. Additionally, measurements for temperature, conductivity, and dissolved oxygen are taken approximately one to two feet above the bottom of the water column. An intensive survey is being conducted and is described elsewhere in this report.

The Commission collected water column samples at 28 stations throughout the District for analyses of 27 organic pollutants. As of this writing, the analyses are still in progress.

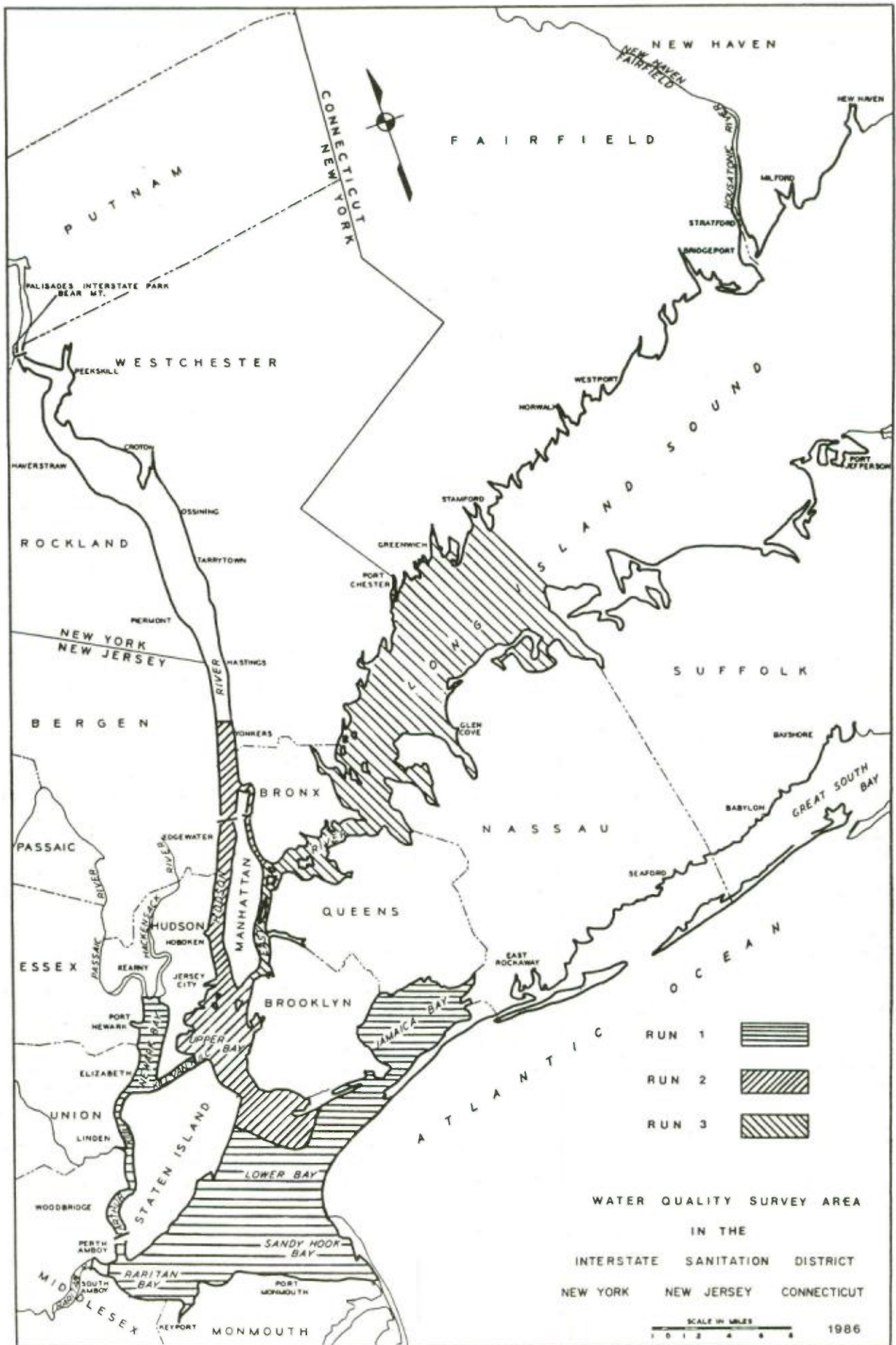
Data generated by these sampling programs are available in hard copy at the ISC office and through STORET, U.S. EPA's national data base for water quality data. A report on the data collected during the water year (October 1, 1985 through September 30, 1986) will be issued in the spring of 1987.

A map of the water quality sampling areas, as well as lists of the sampling station descriptions, are shown on the following pages.

### Special Intensive Sampling Surveys

In 1985, both the States of New York and New Jersey conducted Use Attainability Analyses (UAAs), as required by the Clean Water Act for those waters not designated as "fishable and swimmable", wherever attainable. The Commission, as well as the environmental departments of both States and the U.S. EPA, contributed to both States' UAAs. As a result of the UAAs, several waterbodies within the District have been upgraded by the Commission, New York State, and New Jersey.

After public hearings and preparation of a Hearing Officers' Report, on September 19, 1984, the Commission adopted an amendment to Section 2.05(b) of its Water Quality Regulations. The new regulation, which took effect July 1, 1986, requires that the Commission's coliform effluent limitations be met on a year-round basis.



INTERSTATE SANITATION COMMISSION  
WATER QUALITY SAMPLING STATIONS - RUN 1

STATION	LATITUDE			LONGITUDE			DESCRIPTION
	NORTH			WEST			
	D	M	S	D	M	S	
AK-03	40	38	18	74	11	45	At the center of & on the northside of the B&O R.R. Bridge
AK-07	40	35	35	74	12	22	Middle of mouth of Rahway River & in line with shoreline along Tremley Reach
AK-13	40	33	02	74	15	00	Mid-channel between Flashing Red Buoy #12 & Flashing Green, Black Buoy #1
AK-18	40	30	24	74	15	34	Mid-channel of Ward Point Bend (west) and opposite Perth Amboy Ferry Slip
AO-01	40	31	47	73	56	37	Flashing Red R "2" Gong (4 sec.)
JB-03	40	37	37	73	53	00	In channel 400 feet south of the end of Canarsie Pier
JB-05	40	35	45	73	48	40	At center pier of bridge over Beach Channel - Hammels
JB-07	40	38	52	73	49	20	At mouth of Bergen Basin, southeast of the sludge storage tank
LB-01	40	30	44	74	06	03	500 feet from Old Orchard Light in line with the beacon at Old Orchard Shore
NB-03	40	39	20	74	08	45	Northside of C.R.N.J. Bridge over the Newark Bay South Reach Channel (mid-channel)
NB-12	40	41	57	74	07	10	Newark Bay North Reach at mid channel northside of LVRR Bridge
RB-10	40	29	04	74	15	38	Qk Fl G "3" Buoy
RB-14	40	28	01	74	11	18	Buoy C "3" off Conaskonk Point at channel entrance to Keyport Harbor
RB-15	40	27	23	74	08	56	Private Fl G Buoy "1" on Belvedere Beach Point Comfort
RB-16	40	30	16	74	09	46	North side of Fl 4 sec 8M "20" Buoy located on northern boundary of Raritan Bay West Reach; off Huguenot Beach on Staten Island
RI-02	40	34	24	73	53	08	Under center of bridge from Barran Island to Rockaway
RI-03	40	33	21	73	56	51	Gong "9" Fl G 4 sec Buoy in Rockaway Inlet; northwest of Lookout Tower on Rockaway Point

INTERSTATE SANITATION COMMISSION  
WATER QUALITY SAMPLING STATIONS - RUN 2

STATION	LATITUDE NORTH			LONGITUDE WEST			DESCRIPTION
	D	M	S	D	M	S	
HA-02	40	50	44	73	55	45	Hamilton Bridge (middle bridge of 3)
HR-01	40	42	20	74	01	36	Mid-channel of Hudson River N-S: Line of black buoys E-W: Fire Boat Pier (NY) and railroad pier (NJ)
HR-02	40	45	17	74	00	58	Mid-channel of Hudson River E-W: Heliport (NY) and Seatrain pier (NJ)
HR-03	40	47	41	73	59	09	Mid-channel of Hudson River E-W: Soldiers & Sailors Monument (NY) and circular apartment buildings (NJ)
HR-04	40	51	04	73	57	04	Mid-channel of Hudson River under George Washington Bridge
HR-05	40	52	40	73	55	02	Mid-channel of Spuyten Duyvil Creek under Henry Hudson Bridge
HR-07	40	56	51	73	54	27	Mid-channel of Hudson River E-W: Opposite Phelps Dodge (Yonkers)
LB-02	40	33	45	74	04	20	B.W. Bell off Midland Beach
LB-03	40	34	03	73	59	00	200 feet south of Steeplechase Pier at Coney Island - N "2S"
LB-04	40	35	00	74	00	51	1/4 mile northeast of Norton Point, near the White Nun Buoy
NJ-08	40	31	28	74	02	07	Buoy R "10S" Gong Fl R at northwest end of Swash Channel
UH-03	40	39	14	74	03	35	Passaic Valley Outfalls E-W: Robbins Reef Light and forward water tower on Naval Dock N-S: Statue of Liberty and Black Bell Buoy #1-G
UH-11	40	39	05	74	05	10	Located in the Kill Van Kull, in mid-channel & directly opposite Fl G & Black Buoy #3
UH-13	40	36	26	74	02	45	Middle of channel in Narrows under Verrazano Bridge
UH-21	40	40	23	74	02	28	Main ship channel 10 yards to the west of Fl R Bell Buoy #30
UH-22	40	38	25	74	02	50	In mid-channel of Bay Ridge Channel E-W: Flashing Red Beacon on 69th St. Ferry Dock (Brooklyn) N-S: Fl G Bell Buoy #3 and Fl R Gong Buoy #22
UH-29	40	42	17	73	59	54	Mid-channel of East River in line with Pier #11 (Manhattan) and Pier #1 (Brooklyn)



INTERSTATE SANITATION COMMISSION  
WATER QUALITY SAMPLING STATIONS - RUN 3

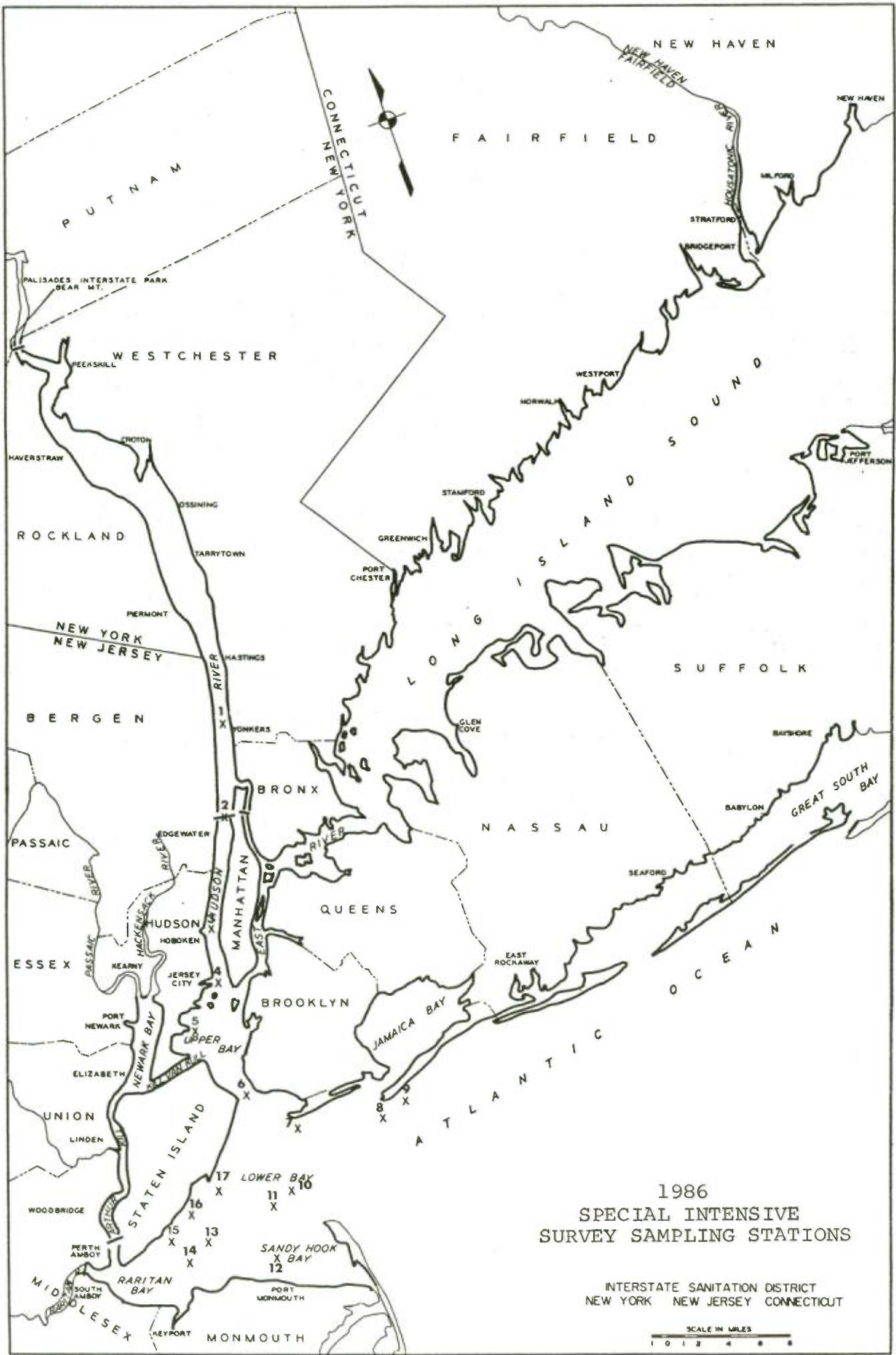
STATION	LATITUDE NORTH			LONGITUDE WEST			DESCRIPTION
	D	M	S	D	M	S	
ER-02	40	42	48	73	58	20	Under Williamsburg Bridge - mid-channel
ER-03	40	44	05	73	58	05	Mid-channel of East River E-W: Pier #73 (School Slip) Manhattan with open pier, foot of Greene Street, Brooklyn N-S: Poorhouse Flats Range
ER-09	40	47	26	73	54	53	Mid-channel of East River E-W: Fl R Bell Beacon on Wards Island with tall stack on Con Edison's Astoria Plant
ER-11	40	47	50	73	52	02	Mid-channel of East River E-W: Fl R Beacon (College Point) with stack on Rikers Island N-S: Line from center of Sanitation Pier (Hunts Point) with Fl R #4 Buoy (Station approximately 250 yards SE of #4 Buoy)
LI-15	40	47	58	73	47	38	Middle of Throgs Neck Bridge
LI-17	40	49	43	73	46	46	500 yards off Stepping Stone, north of Fl G "12" M Horn
LI-19	40	51	33	73	45	03	Off Bell "27" at Gang Way Rock
LI-24	40	53	57	73	44	27	At New Rochelle outfall approximately 500 yards south of R "2"
LI-25	40	55	25	73	42	01	Mamaroneck Fl 4 sec. Bell R "42"
LI-26	40	58	47	73	38	59	Port Chester off N "2"
LI-27	41	00	08	73	36	04	Captain's Harbor - Newfoundland Reef Fl R "4"
LI-28	40	59	42	73	33	58	Greenwich Point R N "34"
LI-29	41	00	54	73	32	14	Stamford between E int G 8M Horn & Fl R
LI-31	40	55	29	73	30	11	Oyster Bay Gong "1"
LI-32	40	54	39	73	38	07	Matinecock Pt. "21" Fl G 4 sec. Bell
LI-33	40	51	42	73	40	07	Hempstead Harbor midway between R 6 Bell and Fl 4 sec. "1"
LI-34	40	50	00	73	44	02	Manhasset Bay Fl G 4 sec. "1"
LI-35	40	59	33	73	28	53	At the disposal site designated as WLIS III N-S: Long Neck Point in Connecticut and Lloyd Point in New York

As a follow-up to the two aforementioned actions, the Commission, in cooperation with the environmental departments of the States of New York and New Jersey, scheduled special ambient water quality sampling surveys to assess the results of those actions and plan for future actions. To reduce the costs of chartering commercial boats to do the sampling, whenever possible, the State environmental departments are supplying their boats. Commission personnel are doing the sampling and the analyses are being performed by the ISC laboratory.

Four sampling surveys, each lasting from three to ten days, have been scheduled for August and November 1986 and February and April 1987. Seventeen stations were chosen in the Hudson River, Upper New York Bay, Lower New York Bay, Raritan Bay, Sandy Hook Bay, and the Atlantic Ocean. A map and listing of the station locations are included on the following pages. Several of the Raritan/Sandy Hook Bay stations are located in shellfishing areas and the station off the Rockaways is located near the NYS DEC summer closure boundary for shellfishing.

On all four surveys, top (approximately 5-feet below the surface) and bottom (approximately 1- to 2-feet above the bottom) samples will be taken for dissolved oxygen, temperature and conductivity. Top samples for fecal and total coliforms will be taken on all four surveys and bottom samples for these parameters will be taken at one station. Additionally, on the August 1986 and February 1987 surveys, top samples will be taken for metals, nutrients, and chlorophylls.

At the conclusion of the four surveys, all of the data will be assessed and a report will be issued.



1986  
SPECIAL INTENSIVE  
SURVEY SAMPLING STATIONS

INTERSTATE SANITATION DISTRICT  
NEW YORK NEW JERSEY CONNECTICUT



INTERSTATE SANITATION COMMISSION

1986 SPECIAL SAMPLING SURVEY STATION LOCATIONS

ISC SURVEY STATION NUMBER	LATITUDE NORTH D M S	LONGITUDE WEST D M S	D E S C R I P T I O N	MAP REFERENCE NUMBER
AO-01	40-31-47	73-56-37	Flashing Red R "2" Gong (4 sec.)	8
HR-01	40-42-20	74-01-36	Mid-channel of Hudson River N-S: Line of black buoys E-W: Fire Boat Pier (NY) and railroad pier (NJ)	4
HR-02	40-45-17	74-00-58	Mid-channel of Hudson River E-W: Heliport (NY) and Seatrain pier (NJ)	3
HR-04	40-51-04	73-57-04	Mid-channel of Hudson River under George Washington Bridge	2
HR-07	40-56-51	73-54-27	Mid-channel of Hudson River E-W: Opposite Phelps Dodge (Yonkers)	1
LB-01	40-30-44	74-06-03	500 feet from Old Orchard Light in line with the beacon at Old Orchard Shore	17
LB-03	40-34-03	73-59-00	200 feet south of Steeplechase Pier at Coney Island - N "2S"	7
LB-05	40-29-01	74-07-35	Buoy "1" Fl 4 sec; off Point Comfort	13
LB-07	40-29-40	74-02-53	Buoy Fl G 4 sec; Southern end of Chapel Hill South Channel	11
LB-08	40-31-28	74-02-07	Buoy R "10S" Gong Fl R 4 sec; Northwest end of Swash Channel	10
RB-16	40-30-16	74-09-46	North side of Fl 4 sec 8M "20" Buoy located on northern boundary of Raritan Bay West Reach; off Huguenot Beach on Staten Island	16
RB-19	40-28-26	74-11-02	Buoy "1" Fl G 2.5 sec; off Conaskonk Point	14
RB-20	40-27-27	74-04-20	Buoy "1" Fl G 4 sec Bell; off Port Monmouth	12
RB-21	40-29-25	74-11-40	Midway between Fl 4 sec Buoy and Fl 4 sec 8M "20" Buoy and 2300 yards south of Seguin Point on Staten Island	15
UH-03	40-39-14	74-03-35	Passaic Valley Outfalls E-W: Robbins Reef Light and forward water tower on Naval Dock N-S: Statue of Liberty and Black Bell Buoy 1-G	5
UH-13	40-36-26	74-02-45	Middle of channel in Narrows under Verrazano Bridge	6
W-06	40-32-36	73-51-54	South of main building with twin towers at Riis Park and approxi- mately 1 1/2 miles from shore	9

## BOAT INSPECTION TRIP

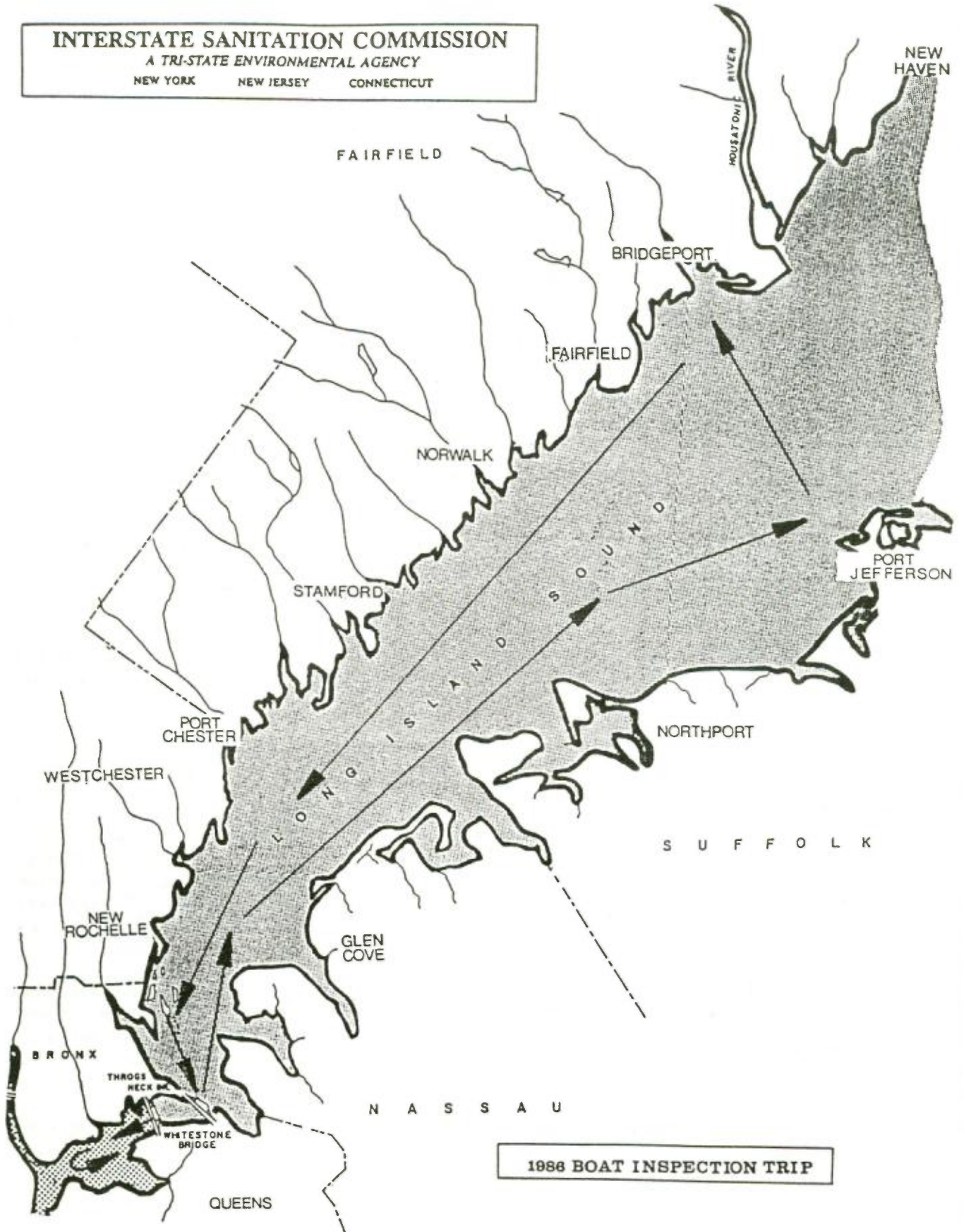
In August, the Commission conducted a boat inspection trip of the upper reach of the East River and the western portion of Long Island Sound. The map on the following page shows the route which was followed. The Upper East River lies within the heavily populated and industrialized portion of New York City and is a major navigational channel. The waters of western Long Island Sound offer fine opportunities for primary contact activities such as boating, swimming, recreational/commercial fishing and shellfishing, scuba diving and waterskiing. Despite improvements in the overall quality of the waters over the past five to ten years, some of these waters do not meet their classified goals on a year-round basis.

The attendees, which included ISC Commissioners, elected officials, officials from all levels of government, citizen groups, and the press, had an opportunity to discuss and observe first-hand some of the environmental problems in the District.

**INTERSTATE SANITATION COMMISSION**

A TRI-STATE ENVIRONMENTAL AGENCY

NEW YORK    NEW JERSEY    CONNECTICUT



**1988 BOAT INSPECTION TRIP**

## LONG ISLAND SOUND ESTUARINE STUDY

Starting in fiscal year 1985, Congress appropriated funding for the U.S. EPA to carry out a multiyear water quality program including research, sampling, monitoring, and assessment for the Long Island Sound. Overall coordination of the project is being conducted by the U.S. EPA Regions I and II. The study is being done by the Commission, the States of Connecticut and New York, the National Oceanic and Atmospheric Administration (NOAA), and the academic community.

The goals of the study are:

1. to protect and improve the water quality of Long Island Sound and its coves and estuaries in order to ensure that a healthy and diverse marine community is maintained,
2. to ensure that health risks associated with human consumption of shellfish and finfish are minimized,
3. to ensure that opportunity for water contact recreation activities are maximized, and
4. to ensure that social and economic benefits associated with the use of Long Island Sound are realized to the fullest extent possible by the citizens of Connecticut and New York.

The study area for the project includes the East River from Hell Gate to Throgs Neck and Long Island Sound from Throgs Neck on the west to a line between Watch Island, Rhode Island and Orient Point/Plum Island, New York on the east.

The initial work is focusing on pollutant sources, toxics, eutrophication (low dissolved oxygen values), and living marine resources (fish, shellfish, and marine biota). To date, the area of study has been basically limited to the western portion of the Sound, that is, the area west of a line between New Haven, Connecticut and Port Jefferson, New York. Due to a changing emphasis during the first year's work, more extensive analyses than had been originally anticipated are being performed by ISC on existing data and sampling by the Commission has been held in abeyance.

The Commission is presently involved in four portions of the study: (1) development of a pollutant sources strategy, (2) toxics concentrations, (3) dissolved oxygen concentrations, and (4) development of a monitoring strategy. ISC is a member of the working groups for these projects.

NOAA is developing a data base and a source loading inventory report of discharge estimates for all point/nonpoint and

riverine sources of waterborne pollutants entering the Long Island Sound. The Commission and the States provided input to NOAA for this portion of the project. ISC conducted an assessment of the NOAA data set and supplied NOAA with the Commission's data collected over the years at STPs and industries. ISC and the States also reviewed and commented to NOAA on the tasks that NOAA is conducting. A final report will be issued by NOAA in the near future. The source loading data base will be updated by all the study participants as new information becomes available.

ISC is the lead agency for assembling and summarizing water quality data related to toxics contamination. NOAA is the lead agency for toxics contamination data in sediments and the States are the lead agencies for toxics contamination data in fish.

For the water column, the Commission has identified and assembled the historical and ongoing data sets. From the analyses performed to date by the Commission on the existing data, it can be concluded that the availability of toxics data in the water column is extremely limited. The data base is small and any conclusions drawn will be very preliminary in nature and subject to further verification. The data base is limited by both the frequency of sampling and the extent of the area covered. The existing historical data and ongoing water quality programs have been greatly emphasizing the area of the Upper East River and the extreme western portion of Long Island Sound west of a line between Stamford, Connecticut and Huntington, New York. Little, if any, data exist for the remaining portion of the Sound which comprises approximately 80 percent of the study area. The data analyses for toxics in the water column should also be examined in conjunction with the toxics data in sediments and in living marine resources to get an overall picture of the situation. A report on toxics contamination in the water column, based on historical and ongoing data sets, will be issued by the Commission in early 1987.

The Commission, NOAA, and the States are jointly conducting a study to characterize the dissolved oxygen concentrations in western Long Island Sound. The ISC collected all the data from the state, county, and local agencies and supplied that data, along with its own data, to NOAA. Initial data assessments have been performed by NOAA and a preliminary report recently issued by NOAA is being reviewed by the Commission and the other study participants.

The Monitoring Strategy Working Group, of which the Commission and the other study participants are members, is developing a coordinated sampling strategy for Long Island Sound. The strategy will address the data needs for dissolved oxygen, toxics, living marine resources, and any future modeling that may be done for this project.



### III. AIR POLLUTION

#### GENERAL

Since the inception of its interstate air pollution program in 1962, the Commission has been involved with investigations, applied research, and advocating regional viewpoints on environmental issues. During 1986, the Commission continued its investigation of air pollution complaints, particularly on Staten Island. For the 12-month period ending September 30, 1986, a total of 3,475 air pollution complaints were received; an increase of 40% over the previous 12-month period.

The Commission is working on an expanded odor identification training program which is expected to begin in early 1987. The aim of this program is to familiarize citizens with various types of odors so that their descriptions would better assist the Commission's field inspectors in determining where to look for the source or sources of offensive emissions.

In view of the impact of the large number of resource recovery facilities that have been announced or proposed in the tri-state area, the Commission recognizes the need for these facilities as a means of disposal for municipal solid wastes. However, the Commission also emphasizes the environmental controls that are necessary to help insure public health and welfare.

The Commission continued to participate in the public hearings related to resource recovery facilities and requested party status in the adjudicatory hearing on the facility proposed for the Brooklyn Navy Yard.

Perth Amboy, New Jersey, which is directly opposite Staten Island, has been proposed as a possible site for a hazardous waste incinerator. ISC is a member of a task force set up by NYS DEC to study the affects that this facility may have on New York State.

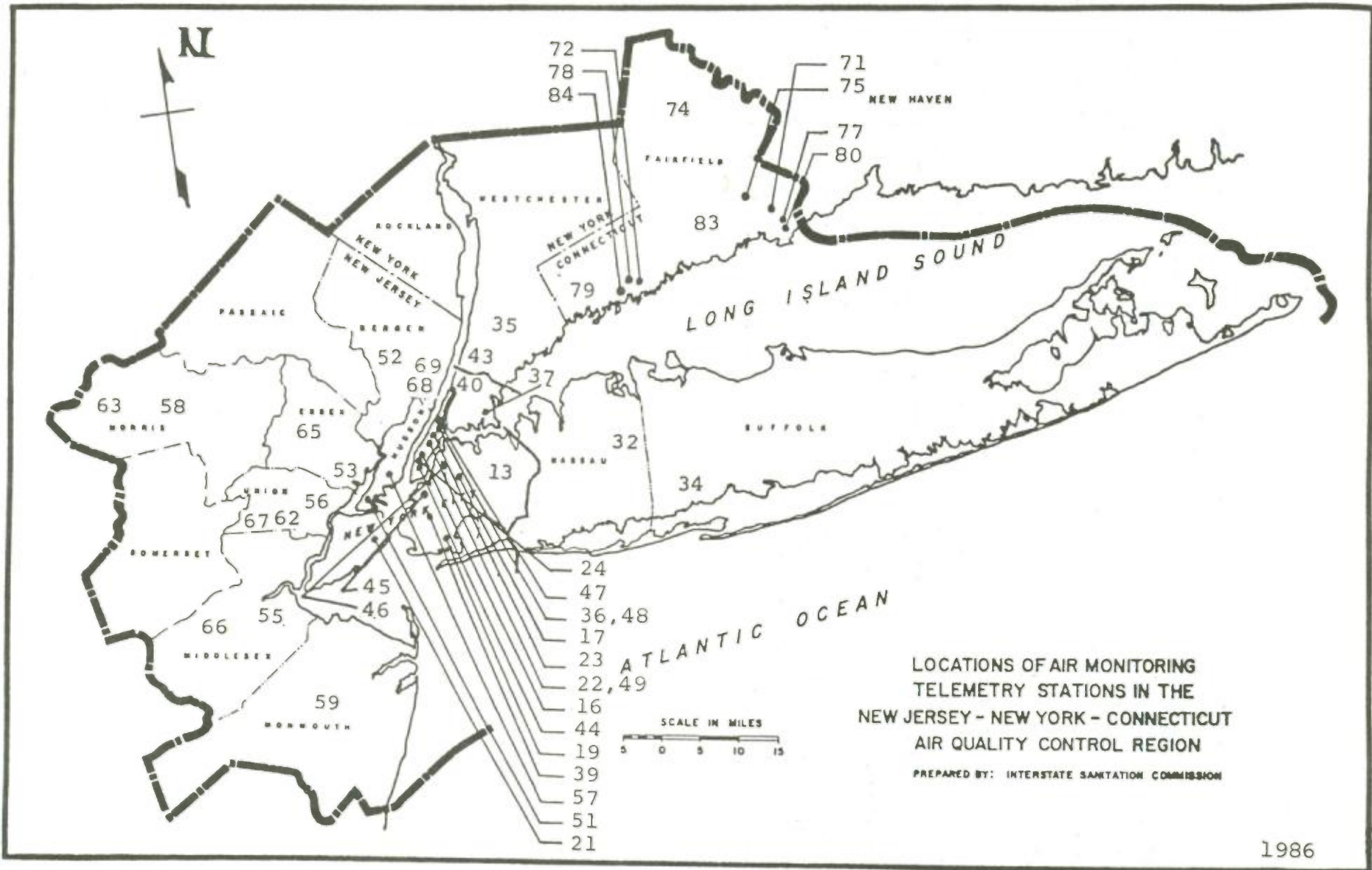
During this past year, the Commission continued to provide daily air quality and stagnation advisory reports for use by its three member States and New York City.

## REGIONAL AIR POLLUTION WARNING SYSTEM

The Interstate Sanitation Commission has the responsibility to coordinate the New Jersey-New York-Connecticut Air Quality Control Region's (AQCR's) High Air Pollution Alert and Warning System. Based on stagnation advisory reports and/or existing pollution levels, the Commission may activate this System. Upon notification by the Commission that the System has been activated, pollutant data are transmitted to and from the participating federal, state, and local agencies by the Commission using procedures agreed upon by all the participants. Conditions during 1986 did not warrant activation of the System.

The number of air telemetry stations operated by the three member States in the New Jersey-New York-Connecticut AQCR increased to 47 in 1986 from the 44 existing in 1985. Stations were added at SoHo and P.S. 59 in New York City and at Fort Lee, New Jersey. An updated map and list of the stations' locations are shown on the following pages.

The Commission receives daily stagnation forecasts, prepared by NYS DEC, for the New Jersey-New York-Connecticut AQCR. ISC disseminates these forecasts, as well as air quality data it receives from the states, to all participating agencies.



LOCATIONS OF AIR MONITORING  
TELEMETRY STATIONS IN THE  
NEW JERSEY - NEW YORK - CONNECTICUT  
AIR QUALITY CONTROL REGION

PREPARED BY: INTERSTATE SANITATION COMMISSION

AIR MONITORING TELEMTRY STATIONS  
IN THE  
NEW JERSEY-NEW YORK-CONNECTICUT  
AIR QUALITY CONTROL REGION

<u>ISC NO.</u>	<u>SITE OR CITY</u>	<u>COUNTY</u>	<u>STATE</u>
13	Queens College	Queens	New York
16	Mabel Dean Bacon H.S.	New York	New York
17	Greenpoint	Kings	New York
19	Sheepshead Bay H.S.	Kings	New York
21	Susan Wagner H.S.	Richmond	New York
22	CCNY	New York	New York
23	45th Street	New York	New York
24	Canal Steet	New York	New York
32	Eisenhower Park	Nassau	New York
34	Babylon	Suffolk	New York
35	White Plains	Westchester	New York
36	I.S. 45	New York	New York
37	I.S. 155	Bronx	New York
39	P.S. 321	Kings	New York
40	P.S. 2	Bronx	New York
43	Yonkers	Westchester	New York
44	World Trade Center	New York	New York
45	Brooklyn Transit	Kings	New York
46	P.S. 112	Queens	New York
47	Alexander's Dept. Store	New York	New York
48	P.S. 59	New York	New York
49	SoHo	New York	New York
51	Bayonne	Hudson	New Jersey
52	Hackensack	Bergen	New Jersey
53	Newark	Essex	New Jersey
55	Perth Amboy	Middlesex	New Jersey
56	Elizabeth	Union	New Jersey
57	Jersey City	Hudson	New Jersey
58	Morristown	Morris	New Jersey
59	Freehold	Monmouth	New Jersey
62	Elizabeth	Union	New Jersey
63	Chester	Morris	New Jersey
65	East Orange	Essex	New Jersey
66	New Brunswick	Middlesex	New Jersey
67	Plainfield	Union	New Jersey
68	Cliffside Park	Bergen	New Jersey
69	Fort Lee	Bergen	New Jersey
71	Bridgeport	Fairfield	Connecticut
72	Stamford	Fairfield	Connecticut
74	Danbury	Fairfield	Connecticut
75	Stratford	Fairfield	Connecticut
77	Bridgeport	Fairfield	Connecticut
78	Stamford	Fairfield	Connecticut
79	Greenwich	Fairfield	Connecticut
80	Bridgeport	Fairfield	Connecticut
83	Norwalk	Fairfield	Connecticut
84	Stamford	Fairfield	Connecticut

## AIR POLLUTION COMPLAINTS

The Commission continued its activity of receiving, responding to, and investigating citizen air pollution complaints. The heavily industrialized area of the New York-New Jersey border, in the vicinity of Staten Island, more than any other single area under the jurisdiction of the Commission, generates citizen complaints of disagreeable odors and airborne pollutants.

To expeditiously respond to complaints, the Commission continued to maintain a field office and a 24-hour answering service on Staten Island. The field office on Staten Island is staffed for two shifts three days a week and one shift four days a week; this includes weekends and nighttime hours. When there is no inspector present in the field office, complaints are handled at the Commission's office during regular office hours and, whenever necessary, Commission personnel are reached at home by ISC's answering service during non-office hours.

During the last five years, the Commission has received nearly 10,000 air pollution complaints. In each of these years, the number of complaints received has increased over the number received in the previous year. For the 12-month period ending September 30, 1986, the Commission received a total of 3,475 complaints. This represents increases of 40% and 94% over the comparable 12-month periods in 1985 and 1984, respectively. The Commission categorized all odor complaints received during the latest 12-month period as shown in the four tables on the following pages. The complaints were categorized by: (1) community from which the complaints were made, (2) type of odor, (3) time of day, and (4) day of the week.

Sixty-three Staten Island communities were the source of all but 19 complaints. All communities except Mariner's Harbor, Tottenville, Huguenot and Sunnyside showed an increase in the number of reported complaints. New Springville was the source of 353 complaints -- 10.2% of the total. Five other Staten Island communities -- Bull's Head, Westerleigh, Annadale, Arden Heights, and Great Kills -- were the source of more than 200 complaints each.

Based on the descriptions reported by the citizens, odors fell into the ten categories shown on the table. The odor described as "cat urine" was the most frequently reported and represented 37.1% of all complaints. "Cat urine" odor was especially prevalent during the months of December 1985 and January 1986 when a total of 913 complaints of this odor was registered. "Garbage" odors were also significant, amounting to 14.7% of all complaints. Of the 512 "garbage" odor complaints reported for the 12-month period, 311 were registered in June and July 1986. The "chemical and others" category, with 25.1% of the total

DISTRIBUTION OF AIR POLLUTION COMPLAINTS BY COMMUNITY ON  
STATEN ISLAND FROM OCTOBER 1985 TO SEPTEMBER 1986

COMMUNITY	COMPLAINTS	
	NUMBER	% OF TOTAL
New Springville	353	10.2
Bull's Head	239	6.9
Westerleigh	230	6.6
Annadale	229	6.6
Arden Heights	217	6.3
Great Kills	206	5.9
Travis	179	5.2
West New Brighton	157	4.5
Eltingville	130	3.7
Willowbrook	121	3.5
Graniteville	112	3.2
Mariner's Harbor	112	3.2
Huguenot	92	2.6
Port Richmond	91	2.6
Richmondtown	89	2.6
Castleton Corners	79	2.3
New Dorp	76	2.2
Tottenville	67	1.9
Oakwood	65	1.9
Dongan Hills	60	1.7
Rossville	57	1.6
Sunnyside	52	1.5
All Others *	462	13.3
TOTALS	3475	100.0

\* Represents 41 communities from which 50 or fewer complaints were reported per community. In addition, this total includes eleven complaints from other boroughs and New Jersey.

DISTRIBUTION OF AIR POLLUTION COMPLAINTS BY TYPE OF ODOR  
 FROM STATEN ISLAND COMMUNITIES  
 FROM OCTOBER 1985 TO SEPTEMBER 1986

TYPE OF ODOR	COMPLAINTS	
	NUMBER	% OF TOTAL
Cat Urine	1287	37.1
Garbage	512	14.7
Gassy	255	7.3
Sulfur/Eggy	231	6.7
Sewage	108	3.1
Burning Rubber/Plastic	99	2.9
Dead Fish/Fishy	74	2.1
Onion/Garlic	22	0.6
Soap/Detergent	14	0.4
Chemical & Others	873	25.1
<b>TOTALS</b>	<b>3475</b>	<b>100.0</b>

DISTRIBUTION OF AIR POLLUTION COMPLAINTS BY TIME OF DAY  
 FROM STATEN ISLAND COMMUNITIES  
 FROM OCTOBER 1985 TO SEPTEMBER 1986

MONTH	NUMBER OF COMPLAINTS				
	Time of Complaints*			TOTAL	% OF TOTAL
	Midnight to 8:00 AM	8:00 AM to 4:00 PM	4:00 PM to Midnight		
October 1985	54	58	152	264	7.6
November 1985	27	36	138	201	5.8
December 1985	71	216	341	628	18.1
January 1986	48	174	358	580	16.7
February 1986	22	33	147	202	5.8
March 1986	46	92	148	286	8.2
April 1986	17	36	53	106	3.0
May 1986	23	37	109	169	4.9
June 1986	68	76	218	362	10.4
July 1986	18	156	223	397	11.4
August 1986	30	45	105	180	5.2
September 1986	21	26	53	100	2.9
TOTALS	445	985	2045	3475	
% OF TOTAL	12.8	28.3	58.9		100.0

\* Includes Weekends and Holidays



DISTRIBUTION OF AIR POLLUTION COMPLAINTS BY DAY OF WEEK  
 FROM STATEN ISLAND COMMUNITIES  
 FROM OCTOBER 1985 TO SEPTEMBER 1986

MONTH	NUMBER OF COMPLAINTS						
	Day of Complaints*						
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
October 1985	15	29	23	9	94	66	28
November 1985	16	13	55	27	32	8	50
December 1985	171	22	42	41	17	176	159
January 1986	25	60	132	28	202	49	84
February 1986	9	6	51	29	53	27	27
March 1986	72	25	22	66	17	28	46
April 1986	20	19	14	11	17	20	15
May 1986	5	12	32	23	61	28	8
June 1986	123	62	51	26	35	23	42
July 1986	46	53	181	93	10	7	7
August 1986	45	45	11	18	27	13	21
September 1986	8	16	6	4	38	19	9
TOTALS	555	362	620	375	603	464	496
% OF TOTAL	16.0	10.4	17.8	10.8	17.3	13.4	14.3

\* Includes Holidays

number of complaints, represents odors that were described as "chemical", as well as odors that could not be more specifically identified by the complainants.

The complaints were also tabulated according to three time intervals -- midnight - 8:00 a.m., 8:00 a.m. - 4:00 p.m., and 4:00 p.m. - midnight. The purposes for doing so are to recognize when the majority of pollution complaints are being made and to schedule the inspection staff accordingly. The table detailing complaints as a function of time of day shows that 58.9% of the complaints were reported between 4:00 p.m. and midnight and 28.3% between 8:00 a.m. and 4:00 p.m. This table also indicates that 1,967 complaints, or 56.6% of all complaints registered, were reported in four of the twelve months -- December, January, June and July.

The complaints were also grouped by the day of the week on which they were reported. The number of complaints per day of the week ranged from a high of 620, or 17.8% of the total, on Wednesdays to a low of 362, or 10.4% of the total, on Tuesdays. During the previous 12-month period, Tuesdays and Sundays were found to generate the highest and lowest number of citizen complaints, respectively.

## ODOR IDENTIFICATION TRAINING

Citizen complaints of objectionable odors are the most direct and frequent source of information about unsatisfactory air quality. During the last five years, the Commission has received nearly 10,000 air pollution complaints, with almost 3,500 of these complaints being registered in the 12-month period ending September 30, 1986. The odors are usually detected and reported by persons who do not have special knowledge nor training in identifying odors. A large number of odors are inadequately identified or described. This past year, approximately 25% of the total complaints received by the Commission fell into this category.

Improvement in identifying and describing odors would result in a significant advantage to the Commission in locating the source of the odor. To this end, the Commission initiated an odor identification training course in 1985, in conjunction with the office of Congressman Guy Molinari of Staten Island. The primary objective of the course is to familiarize residents with a variety of odors, especially those most likely to be present on Staten Island. The Commission developed a program in which gaseous, liquid, and solid samples are prepared to produce a total of thirteen of the most common odors. Two odor training sessions were held during the latter part of 1985 at the College of Staten Island and a considerably expanded program is scheduled to start in early 1987.

The Commission is planning to train over 200 citizens. As more people are trained and are better able to distinguish among various odors, the improved information will assist the Commission's inspectors in locating the source or sources of emissions.

## RESOURCE RECOVERY FACILITIES

A large number of resource recovery facilities (RRFs) have been announced or proposed in or near the New Jersey-New York-Connecticut Air Quality Control Region (AQCR). More than 25 resource recovery facilities are planned for construction and operation in the next ten years to replace landfilling operations and to meet future needs for municipal solid waste (MSW) disposal. A map and list showing the locations of these resource recovery facilities are presented on the following pages.

The large majority of the RRFs are mass-burning units that incinerate the municipal solid waste and recover energy by generating steam for the production of electricity. The estimated total capacity of these resource recovery plants is approximately 32,000 tons/day, which represents about 40% of the total projected MSW combustion capacity for the United States and Canada.

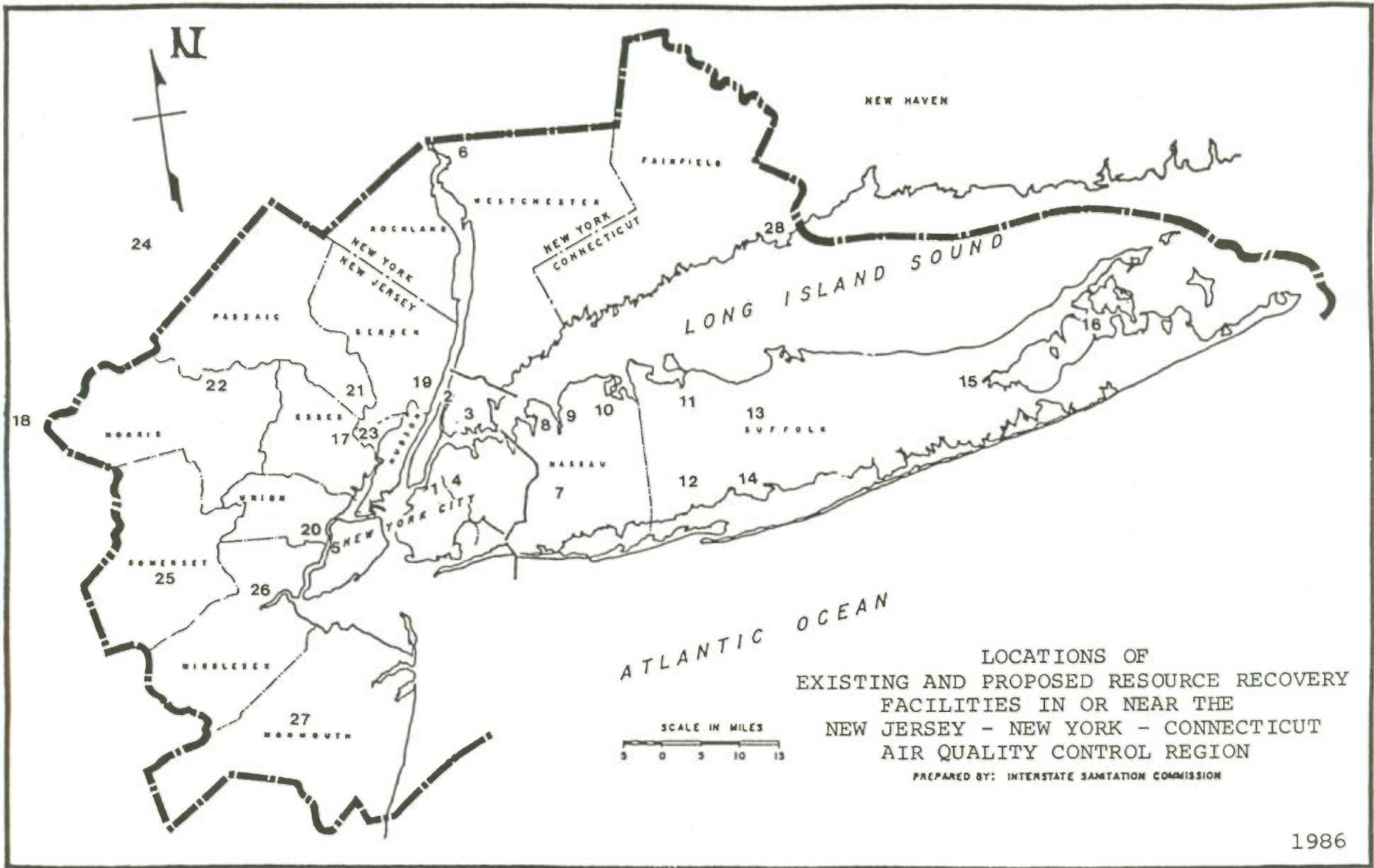
The Commission recognizes the magnitude of the MSW problem in the region and is in favor of the advancement of RRF projects as a means of disposal of municipal solid waste. However, these facilities must proceed with the greatest possible protection to the inhabitants and the environment of the region. ISC has participated in the public comment procedures for several resource recovery facilities in the tri-state region. The Commission's public statements have addressed the adequacy of the pollution control equipment, the monitoring and testing schedule, the ash disposal plan, the recycling program, and the discussion of the dioxin issue.

Acid gas control technology (dry scrubbing) for the removal of hydrochloric acid and sulfur dioxide should be employed. The Commission favors the use of a fabric filter rather than an electrostatic precipitator for particulate control because it has a higher efficiency for the capture of ultrafine, respirable particles which have an affinity for toxics.

Periodic stack testing should be done for toxic metals, dioxins and furans, and other selected organic compounds, such as formaldehyde. In order to ensure proper plant operation, continuous monitoring should be done for hydrochloric acid, sulfur dioxide, carbon monoxide, oxygen, and temperature, among others.

Ash disposal should be in a secure landfill equipped with a leachate collection system and safeguarded from water and wind erosion, regardless of whether the residue is technically classified hazardous or not. Ash residue should be tested periodically to determine levels of toxic metals and dioxins and furans.

The Commission advocates a comprehensive recycling/source separation program. These efforts should include the recovery of



LOCATIONS OF  
 EXISTING AND PROPOSED RESOURCE RECOVERY  
 FACILITIES IN OR NEAR THE  
 NEW JERSEY - NEW YORK - CONNECTICUT  
 AIR QUALITY CONTROL REGION

PREPARED BY: INTERSTATE SANITATION COMMISSION

LOCATIONS OF EXISTING OR PROPOSED RESOURCE RECOVERY  
FACILITIES IN OR NEAR THE  
NEW JERSEY-NEW YORK-CONNECTICUT AIR QUALITY CONTROL REGION

F A C I L I T Y				
NO.	NAME	STATE	COUNTY	CAPACITY (Tons Per Day)
1	Brooklyn Navy Yard (2)	New York	Kings	3000
2	Inwood (2)	New York	New York	2000
3	Barretto Point (2)	New York	Bronx	2000
4	Maspeth (2)	New York	Queens	1200
5	Arthur Kill (2)	New York	Richmond	3000
6	Peekskill (1)	New York	Westchester	2250
7	Hempstead (2)	New York	Nassau	2000-2300
8	Port Washington (2)	New York	Nassau	1000
9	Glen Cove (1,3)	New York	Nassau	200
10	Oyster Bay (2)	New York	Nassau	900
11	Huntington (2)	New York	Suffolk	750
12	Babylon (2)	New York	Suffolk	750
13	Smithtown (2)	New York	Suffolk	---
14	Islip (2)	New York	Suffolk	400
15	Riverhead (2)	New York	Suffolk	---
16	Southold - E. Hampton (2,4)	New York	Suffolk	---
17	Newark (2)	New Jersey	Essex	2250
18	Oxford Township (2)	New Jersey	Warren	400
19	Ridgefield (2)	New Jersey	Bergen	3000
20	Rahway (2)	New Jersey	Union	1400
21	Passaic (2)	New Jersey	Passaic	1000
22	Rockaway Township (2)	New Jersey	Morris	1000
23	Kearny (2)	New Jersey	Hudson	1000
24	Lafayette Township (2)	New Jersey	Sussex	300-400
25	To Be Determined (2)	New Jersey	Somerset	600-800
26	To Be Determined (2)	New Jersey	Middlesex	---
27	To Be Determined (2)	New Jersey	Monmouth	---
28	Bridgeport (2)	Connecticut	Fairfield	---

- (1) Existing
- (2) Proposed
- (3) Co-burning with sewage sludge is preferred
- (4) Composting is contemplated

incombustible materials such as glass and metals and the recycling of newsprint and office paper. Source separation of chlorinated compounds should be considered.

To minimize, to the greatest extent, the emissions of dioxin and other toxic compounds, the Commission urges that all possible steps should be taken to reduce these emissions and a rigorous monitoring program should be implemented.

In 1986, the Commission requested party status in the adjudicatory hearings for permitting the initial RRF in New York City, which is to be located at the Brooklyn Navy Yard. Refer to the Legal Activities section of this report for more details. Other communities in the region have proposed resource recovery facilities. The Commission will continue to participate in public hearings and the permitting process for RRFs to present interstate environmental considerations and to aid in bringing about the construction and operation of environmentally safe resource recovery facilities.

Perth Amboy, New Jersey, which is directly opposite Staten Island, is a possible location for a hazardous waste disposal facility using incineration. This has caused some concern in New York State in terms of what affect that facility may have on New York State. The New York State Department of Environmental Conservation has formed a task force to look into various aspects of the situation and asked the Commission to serve on it. The Commission has agreed to serve. Other members of the task force are: NYS DEC, the NYS Health Department, the NYS Attorney General's Office, the NYC Health Department, and NYC DEP. Several meetings have already been held and others are scheduled for 1987. As part of its input as a member of the task force, the Commission is presently compiling air emissions and ambient air quality guidelines/standards for resource recovery facilities that have been issued by the States of New York, New Jersey, Connecticut and Pennsylvania. The listing will show each State's air pollution control criteria and the limits contained in the permits issued by the States for specific sites.

#### IV. LEGAL ACTIVITIES

During the course of 1986, the Commission was involved in numerous actions in administrative, as well as judicial forums. Although the ISC had been previously involved in several of these actions, three additional suits were undertaken in 1986. These efforts are part of the Commission's increased enforcement activities to require compliance with ISC regulations and to provide the important, and all too often neglected, interstate perspective in the various actions. The specific legal activities of the ISC during 1986, described below, do not include the day-to-day matters that take place to ensure the protection of the environment of the region.

##### ISC WATER QUALITY REGULATIONS AMENDMENTS

At the Commission meeting in March 1986, the Commissioners authorized public hearings on proposed changes to the Commission's Water Quality Regulations. Hearings were held in April 1986 in Norwalk, Connecticut; Newark, New Jersey; and New York, New York. At the quarterly Commission meeting in June 1986, after considering the Hearing Officers' Report, the Commissioners approved the amendments, which upgrade several segments of waterbodies in the District and change the format of one section of the Regulations.

Sections 2.01, 2.02, and 2.03 of the Commission's Regulations, dealing with the "use classifications" of the District, were rewritten to include a statement of principles underlying those classifications. The numerical standards for dissolved oxygen contained in Section 2.03 remain the same; however, language referring to development of fish life has been made more consistent with customary terminology by distinguishing between "fish propagation" and "growth and maintenance".

The classifications of two areas within the District have been upgraded in these amendments. The segment of the Hudson River from Hastings-on-Hudson and the New York-New Jersey boundary south to the Hudson River's confluence with the Harlem River has been upgraded to Class "A" from Class "B-1". With this change, the Hudson River north of the Harlem River to the District's northern boundary is all classified as "A". The goal of this upgrade in classification, consistent with that of Class "A" waters in general, is to make available beaches in this segment of water for recreational use once again. The second modification in classification is that of the East River from the Battery to the Whitestone Bridge and the Harlem River from its confluence with the East River to the Washington Bridge. These waterbodies have been upgraded to "B-1" waters from "B-2". Newtown Creek



will remain "B-2", however. Both the States of New Jersey and New York have made comparable upgradings in these waterbodies.

The Commission's Water Quality Regulations, including these amendments, are contained in Appendix B. A map showing the present water classifications can be found at the beginning of the Water Pollution section of this report.

#### LITIGATION AGAINST HUDSON COUNTY COMMUNITIES

In June 1986, the Commission intervened in a suit in the United States District Court in New Jersey against several Hudson County municipalities in order to compel compliance with the ISC Water Quality Regulations by 1988. The U.S. EPA originally brought the suit against Bayonne, North Bergen, Jersey City, Hoboken, and the Hudson County Utilities Authority in order to require the municipalities to upgrade their sewage treatment plants to meet secondary treatment requirements by 1988. Because U.S. EPA's complaint does not contain any reference to compliance with ISC requirements, the Commission intervened to insure that effluents from plants designed and constructed under the suit meet the ISC Water Quality Regulations, as well as the U.S. EPA secondary treatment requirements.

The Commission has attended three conferences in the suit and is now nearing the end of the discovery process. A pre-trial conference date has been scheduled next year in order to conclude discovery and to begin preparations for trial.

#### LITIGATION AGAINST NEW YORK CITY'S OPERATION OF FRESH KILLS LANDFILL

In November 1986, the ISC was granted leave to intervene in the lawsuit originally brought by the Township of Woodbridge, New Jersey against the City of New York to enjoin further deposition of refuse from the Fresh Kills Landfill (located on Staten Island) on the shores of the Township. The Attorney General of the State of New Jersey is also a plaintiff-intervenor in the suit.

The ISC is interested in requiring the City to comply with its outstanding Court Orders, including construction of a wholly enclosed barge unloading facility, and/or otherwise ending the stream of debris escaping from the Landfill. The Commission believes that such actions as more extensive fencing along the shoreline, more effective booms and booming operations, and better debris monitoring during transfer operations, among others, are necessary first steps to alleviating the debris problem. The Commission feels that its intervention and participation in the suit are the best courses of action for expediting its resolu-

tion. A conference with the Magistrate and all parties is scheduled for early 1987.

BROOKLYN NAVY YARD RESOURCE RECOVERY FACILITY ADMINISTRATIVE HEARING

In July 1986, the Commission petitioned for party status in the administrative hearing held on the operating permits to be granted for the Brooklyn Navy Yard Resource Recovery Facility. The Brooklyn Navy Yard (BNY) Project is a proposed 3,000 ton per day municipal solid waste incinerator, which will produce steam energy for sale to a nearby Consolidated Edison facility. Four draft permits for the facility have been released: a State Pollution Discharge Elimination System (SPDES) permit, a Permit to Construct an Air Contaminant Source, a Protection of Water/Water Quality Certification/Tidal Wetlands permit, and a Construction permit under the Environmental Conservation Law ("Special Conditions").

The Commission participated in a pre-hearing conference on July 16, 1986, at which the Commission stated its interest in participating in the hearing as a party with full status. At this conference, the Commission also outlined three important considerations that it would raise at the hearing:

1. that any SPDES permit granted must contain the Commission's effluent limitations and that wastewater from the BNY facility should not be transported to the hydraulically overloaded Newtown Creek sewage treatment plant, unless the plant is expanded to accept the amount;
2. that the disposal of the ash from the BNY facility occurs in a secure landfill to safeguard the waters of the District from contaminated runoff and leachate; and
3. that the cumulative impacts of this facility and those of other facilities planned in the interstate area be considered in determining appropriate air emission values.

The Administrative Law Judge postponed decisions on granting or denying party status until such time as the conference would reconvene.

At approximately the same time, the New York Public Interest Research Group, a petitioning intervenor in the proceeding, sought an injunction against further administrative proceedings in the matter. This action resulted in the Administrative Law Judge's stay of the administrative proceedings for several months pending the resolution of the suit. In late November, the Admin-

Administrative Law Judge lifted the stay and called for resumption of the hearing process in December 1986.

KENNEDY v. CITY OF NEW YORK, et al.

In February 1985, the Commission, the U.S. EPA, NYS DEC, and the City of New York were sued in the Federal Court for the Southern District of New York by five New Jersey residents who alleged that all of the named governmental bodies had failed to abate raw sewage discharges into the Hudson River, to the detriment of New Jersey's beaches. The elimination of raw discharges had already been the subject of a suit and Consent Order between U.S. EPA, NYS DEC, and the City of New York, in the same court, under which the North River and the Red Hook sewage treatment facilities are being constructed. At the end of 1985, the ISC and all of the other defendants had moved to dismiss the suit, although no decision had yet been rendered.

On April 15, 1986, the Judge handed down a decision dismissing the ISC, NYS DEC, and U.S. EPA. The Judge based the dismissal of ISC on the text of the Tri-State Compact, which has no provision for private enforcement suits. Consequently, because only the Commission can bring enforcement suits, the plaintiffs did not have standing to sue the Commission.

MIDDLESEX COUNTY UTILITIES AUTHORITY ADMINISTRATIVE HEARING

At the end of 1985, a tentative settlement had been reached regarding an administrative hearing requested by MCUA on its NJPDES permit, in which the Commission had intervened. A primary issue in the hearing was the applicability of the Commission's water quality requirements to the MCUA permit. By the end of last year, MCUA had indicated it would no longer contest the Commission's effluent limitations, although they had not formally terminated the hearing.

In June 1986, a Consent Order was signed by all parties and approved by the Administrative Law Judge in which, among other items, MCUA agreed not to contest the Commission's effluent values contained in the permit.

WASTEWATER TREATMENT PLANTS  
Discharging into the  
INTERSTATE SANITATION DISTRICT WATERS  
1 9 8 6

Plant	ISC Receiving Water Classification	Date of Const.	F l o w MGD		Type of Treatment	Estimated Population Served (1977-86)
			Average	Design		
<u>CONNECTICUT</u>						
<u>Fairfield County</u>						
Bridgeport - East Side	B-1	1973+	28.1	24.0	Secondary (AS)	100,000
- West Side	B-1	1973+	35.4	60.0	Secondary (AS)	175,000
Fairfield	A	1982+	7.2	9.0	Secondary (AS)	50,000
Greenwich	A	1982+	8.1	8.5	Secondary (AS)	48,000
Norwalk	B-1	1980+	11.9	15.0	Secondary (AS)	79,000
Stamford	B-1	1976+	15.8	22.0	Secondary (AS)	100,000
Stratford	A	1982+	7.8	11.5	Secondary (AS)	51,000
Westport	A	1975+	1.0	2.8	Secondary (AS)	12,000
<u>New Haven County</u>						
Milford - Beaver Brook	A	1969	2.3	3.1	Secondary (AS)	11,000
- Gulf Pond	A	1976+	3.2	2.9	Secondary (AS)	16,000
- Harbor	A	1955+	0.6	0.5	Secondary (AS)	5,000
- Housatonic	A	**	-	8.3	Secondary (AS)	43,000
- Town Meadows	A	1953	1.4	1.2	Secondary (AS)	6,000
New Haven - Boulevard	B-1	1969+	10.0	13.0	Primary	81,000
- East Shore	B-1	1984+	25.3	40.0	Secondary (AS)	128,000
West Haven	B-1	1985+	6.9	12.5	Secondary (AS)	55,000
<u>NEW JERSEY</u>						
<u>Bergen County</u>						
Edgewater	B-1	1958+	2.8	3.0	Primary	21,000
<u>Essex County</u>						
Passaic Valley Sewerage Commissioners	B-1	1985+	215.7	300.0	Secondary (AS)	1,400,000
<u>Hudson County</u>						
Bayonne	B-2	1953	7.2	21.0	Primary	60,000
Hoboken	B-1	1955	9.0	20.7	Primary	45,000
Jersey City - East Side	B-1	1967+	31.3	46.6	Primary	159,000
- West Side	B-2	1967+	14.7	36.0	Primary	115,000
Kearny	B-2	1955	1.9	4.0	Primary	24,000
North Bergen M. U. A. - Woodcliff	B-1	1962	1.9	3.3	Primary	36,000
West New York	B-1	1982+	7.7	10.0	Primary	65,000
<u>Middlesex County</u>						
Carteret	B-2	1950	3.1	3.0	Primary	21,000
Middlesex County Utilities Authority	A	1978+	85.7	120.0	Secondary (AS)	600,000
Old Bridge Township	A	1962	0.9	1.4	Primary	14,000
Perth Amboy	A	1984+	3.7	10.0	Primary	39,000
Rahway Valley Sewerage Authority	B-2	1973+	28.7	35.0	Secondary (AS)	190,000
Sayreville - Melrose	A	1947	0.08	0.15	Primary	1,100
- Morgan	A	1947	0.25	0.3	Primary	3,000
South Amboy	A	1930	0.9	1.0	Primary	9,000
Woodbridge - Sewaren	B-2	1952	4.6	10.0	Primary	33,000
<u>Monmouth County</u>						
Cliffwood Beach	A	1964	0.4	0.75	Secondary (BA)	-
River Gardens	A	1978+	0.17	0.10	Secondary (EA)	-
<u>Union County</u>						
Joint Meeting of Essex & Union Counties	B-2	1978+	62.7	75.0	Secondary (AS)	500,000
Linden Roselle Sewerage Authority	B-2	1982+	9.3	17.0	Secondary (AS)	62,000

WASTEWATER TREATMENT PLANTS  
Discharging into the  
INTERSTATE SANITATION DISTRICT WATERS  
1 9 8 6

Plant	ISC Receiving Water Classification	Date of Const.	Flow MGD		Type of Treatment	Estimated Population Served (1977-86)
			Average	Design		
<u>NEW YORK</u>						
<u>Nassau County</u>						
Bay Park	A	1960+	60.4	60.0	Secondary (AS)	588,000
Belgrave Sewer District	A	1973+	1.5	2.0	Secondary (TF)	12,000
Cedar Creek	A	1984+	46.6	45.0	Secondary (AS)	420,000
Cedarhurst	A	1968+	0.9	1.0	Secondary (TF)	7,500
Cold Spring Harbor Laboratory*	A	1975	0.04	0.075	Physical/Chemical	250 - 400
Glen Cove	A	1981+	4.3	8.0	Secondary (AS)	28,000
Great Neck Sewer District	A	1976+	2.4	2.7	Secondary (TF)	15,000
Great Neck Village	A	1968+	1.3	1.5	Secondary (TF)	8,500
Inwood	A	1961+	1.1	2.5	Secondary (TF)	9,000
Jones Beach	A	1952	0.06	2.5	Secondary (TF)	Seasonal
Lawrence	A	1966+	1.3	1.5	Secondary (TF)	7,000
Long Beach	A	1965+	6.5	6.4	Secondary (BO)	40,000
Oyster Bay Sewer District	A	1963+	1.9	1.5	Secondary (TF)	8,500
Port Washington Sewer District	A	1969+	3.2	3.0	Secondary (TF)	30,000
Roslyn	A	1965+	0.54	0.5	Secondary (TF)	2,500
West Long Beach Sewer District	A	1986+	0.6	1.5	Secondary (TF)	4,000
<u>New York City</u>						
<u>Bronx County</u>						
Hunts Point	B-1	1978+	116.0	200.0	Secondary (AS)	895,000
<u>Kings County (Brooklyn)</u>						
Coney Island	A	1958+	107.0	110.0	Secondary (AS)	690,000
Newtown Creek	B-1	1967	297.0	310.0	Secondary (AS)	1,100,000
Owls Head	B-1	1952	108.0	160.0	Secondary (AS)	785,000
Red Hook	B-1	**	-	60.0	Secondary (AS)	130,000
26th Ward	A	1975+	58.7	85.0	Secondary (AS)	301,000
<u>New York County (Manhattan)</u>						
North River	B-1	1986	166.0	170.0	Secondary (AS)	741,000
Wards Island	B-1	1978+	291.0	250.0	Secondary (AS)	1,300,000
<u>Queens County</u>						
Bowery Bay	B-1	1978+	147.0	150.0	Secondary (AS)	712,000
Jamaica	A	1977+	95.7	100.0	Secondary (AS)	585,000
Rockaway	A	1978+	23.4	45.0	Secondary (AS)	72,000
Tallman Island	B-1	1979+	65.8	80.0	Secondary (AS)	465,000
<u>Richmond County (Staten Island)</u>						
Arthur Kill Correctional Facility*	B-2	1969	0.08	0.1	Secondary (AS)	1,000
Elmwood Homes*	B-2	1978+	0.84	1.0	Extended Aeration	9,000
Elmwood Park Condominiums*	B-2	1976	0.68	2.5	Secondary (RD)	4,000
Heartland Village*	B-2	1968	-	1.0	Extended Aeration	7,000
IS-7*	A	1964	0.1	0.13	Extended Aeration w/ Sand Filtration	900
Mount Loretto Home - Plant #1*	A	1962	-	-	Septic Tank	250
- Plant #2*	A	1962	-	-	Septic Tank	250
Oakwood Beach	A	1979+	26.2	40.0	Secondary (AS)	286,000
Port Richmond	B-2	1979+	40.2	60.0	Secondary (AS)	210,000
PS-3*	A	1969	-	-	Extended Aeration	500
Richmond Memorial Hospital*	A	1985+	0.03	0.04	Secondary (AS)	400
Saint Joseph's School*	A	1963	-	0.02	Septic Tank with Sand Filtration	1,000
Staten Island Mall*	B-2	1972	-	0.13	Extended Aeration	Variable
Village Green*	B-2	1970	-	1.0	Extended Aeration	5,000
<u>Rockland County</u>						
Joint Regional Sewerage Board-Town of Haverstraw	A	1980+	6.1	8.0	Secondary (AS)	50,000
Orange & Rockland Utilities*	A	1984+	0.003	0.012	Secondary (AS)	Industrial

WASTEWATER TREATMENT PLANTS  
Discharging into the  
INTERSTATE SANITATION DISTRICT WATERS  
1 9 8 6

Plant	ISC Receiving Water Classification	Date of Const.	F l o w MGD		Type of Treatment	Estimated Population Served (1977-86)
			Average	Design		
<u>NEW YORK (Continued)</u>						
<u>Rockland County (Continued)</u>						
Orangetown Sewer District	A	1968+	8.0	8.5	Secondary (TF)	52,000
Palisades Interstate Park Bear Mountain Plant	A	1967+	0.14	0.25	Secondary (TF)	Seasonal
Tallman Mountain Plant	A	1968	-	0.01	Secondary (AS)	Seasonal
Rockland County Sewer District #1	A	1981+	15.9	10.0	Secondary (AS)	160,000
Stony Point	A	1985+	0.8	1.0	Secondary (AS)	10,000
<u>Suffolk County</u>						
Huntington Sewer District	A	1956+	1.7	2.0	Secondary (TF)	15,000
Northport	A	1973+	0.3	0.3	Secondary (AS)	3,000
Suffolk County Sewer District #1	A	1974+	2.5	2.5	Primary	14,000
Suffolk County Sewer District #3	A	1975	15.6	30.0	Secondary (AS)	300,000
Suffolk County Sewer District #6	A	1974+	0.7	2.0	Secondary (AS)	7,000
SUNY at Stony Brook	A	1974	1.9	2.0	Primary	10,000
<u>Westchester County</u>						
Blind Brook (Rye)	A	1985+	2.2	5.0	Secondary (AS)	27,000
Buchanan	A	1962	0.2	0.55	Secondary (AS)	2,500
Kings Ferry Sewer Association*	A	1971	0.05	0.05	Secondary (AS)	500
Mamaroneck	A	1965+	15.4	17.0	Primary	79,000
Metro North (Harmon Shop)*	A	1984+	0.13	0.40	Physical/Chemical	Industrial
New Rochelle	A	1982+	14.8	16.0	Secondary (AS)	75,000
Ossining	A	1981	4.7	7.5	Secondary (AS)	49,000
Peekskill	A	1980+	4.9	10.0	Secondary (AS)	35,000
Port Chester	B-1	1985+	5.4	6.0	Primary	26,000
Springvale Apartments Company*	A	1957	0.09	0.1	Secondary (TF)	1,000
Yonkers Joint Treatment	A	1979+	100.2	92.0	Secondary (AS)	500,000
<u>FEDERAL &amp; MILITARY</u>						
Camp Smith - (Westchester Co.)	A	1985+	0.03	0.24	Secondary (TF)	2,000
FDR Veterans Administration Medical Center (Westchester Co.)	A	1982+	0.18	0.4	Secondary (TF)	3,000
Gateway National Recreation Area (Floyd Bennett Field, Kings Co.)	A	1981+	0.12	0.4	Secondary (TF)	2,000
Military Ocean Terminal (Hudson Co.)	B-1	1982+	0.11	0.18	Secondary (AS)	3,000

NOTES:

- + Year of major additions or reconstruction
- \* Private or institutional sewage treatment plant
- \*\* Under construction
- (AS) Activated Sludge
- (BA) Bloc Aeration
- (BO) Biochemical Oxidation
- (EA) Extended Aeration
- (RD) Rotating Disc
- (TF) Trickling Filter

UPDATED  
INTERSTATE SANITATION COMMISSION  
WATER QUALITY REGULATIONS

Originally, the water quality requirements administered by the Commission were those incorporated in Articles VI and VII of the Compact. The Regulations reproduced below contain all the presently operative requirements, including some from the original Compact text and those administratively made pursuant to Article XVII.

Water Quality Regulations\*

The Commission's administratively made water quality regulations were adopted in 1971 with revisions in 1977 and further amendments in 1984 and 1986.

1. General

1.01. All waters of the Interstate Sanitation District (whether of Class A, Class B, or any subclass thereof) shall be of such quality and condition that they will be free from floating solids, settleable solids, oil, grease, sludge deposits, color or turbidity to the extent that none of the foregoing shall be noticeable in the water or deposited along the shore or on aquatic substrata in quantities detrimental to the natural biota; nor shall any of the foregoing be present in quantities that would render the waters in question unsuitable for use in accordance with their respective classifications.

1.02. No toxic or deleterious substances shall be present, either alone or in combination with other substances, in such concentrations as to be detrimental to fish or inhibit their natural migration or that will be offensive to humans or which would produce offensive tastes or odors or be unhealthful in biota used for human consumption.

1.03. No sewage or other polluting matters shall be discharged or permitted to flow into, or be placed in, or permitted to fall or move into the waters of the District, except in conformity with these regulations.

2. Classifications of Waters

2.01. There are two classes of waters within the Interstate

\* as amended through June 1986

Sanitation District: Class A and Class B. Each class is divided into subclasses. The requirements of Section 1 of these regulations shall apply to all waters within the Interstate Sanitation District. In addition, each subclass of the waters shall meet the requirements and be available for the uses as provided for that subclass.

2.02. It is the underlying principle of these regulations that each class and subclass of waters within the Interstate Sanitation District is to be suitable for its best intended uses and that all waters are to be protected, maintained, and improved to the end that they will afford as satisfactory conditions as possible for the maintenance and restoration of the natural ecosystems. It is also recognized that different classifications of waters are appropriate for different areas because of varying activities such as are associated with industry, commerce (including waterborne transportation), recreation, and aesthetic enjoyment. All waters should be aesthetic assets and should, at a minimum, be available for those recreational uses which do not bring the human body into direct contact with the water.

2.03(a). Streams and other waterbodies shall have a minimum dissolved oxygen content in accordance with their respective classifications as follows:

A: Dissolved Oxygen: 5 milligrams per liter

B-1: Dissolved Oxygen: 4 milligrams per liter

B-2: Dissolved Oxygen: 3 milligrams per liter

2.03(b). In addition to meeting the requirements set forth in Section 2.03(a) hereof, waters shall in all respects be suitable for their best intended uses as follows:

A: Suitable for all forms of primary and secondary contact recreation and for fish propagation. In designated areas, they also shall be suitable for shellfish harvesting.

B-1: Suitable for fishing and secondary contact recreation. They shall be suitable for the growth and maintenance of fish life and other forms of marine life naturally occurring therein, but may not be suitable for fish propagation.

B-2: Suitable for passage of anadromous fish and for the maintenance of fish life in a manner consistent with the criteria established in Sections 1.01 and 1.02 of these regulations.



2.04. As used in these regulations:

2.04(a). "Primary Contact Recreation" means recreational activity that involves significant ingestion risk, including but not limited to wading, swimming, diving, surfing, and waterskiing.

2.04(b). "Secondary Contact Recreation" means recreational activity in which the probability of significant contact with the water or water ingestion is minimal including but not limited to boating, fishing, and shoreline recreational activity involving limited contact with surface waters.

2.05. Effluents discharged or flowing into waters of any class shall meet the requirements provided herein. The effluent limitation values contained in subsection 2.05(b) are geometric means and in subsections 2.05(c) and (d) are arithmetic means. Industrial effluent limitation values are for process water volume. Any contaminants taken into the discharger's plant or process from the waters of the Interstate Sanitation District shall not be charged against the effluent quality in computing the values for compliance with these regulations.

2.05(a). pH within the range from 6.0 to 9.0 may be required if the receiving waters are outside this range.

2.05(b). Fecal coliform content shall not exceed 200 per 100 ml on a 30 consecutive day average; 400 per 100 ml on a 7 consecutive day average; and 800 per 100 ml on a 6 consecutive hour average, but no sample may contain more than 2400 per 100 ml. The only portion of the Interstate Sanitation District to which this provision shall not apply at all times is that referred to in Section 3.01(a)(2) hereof. For the aforementioned portion of the District, these disinfection requirements shall apply when disinfection is required to protect the best intended uses of the waters in question. For example, in the case of discharge into waters used primarily for bathing, this bacterial standard need not be required except during the bathing season.

2.05(c). Biochemical Oxygen Demand shall not exceed 30 mg/l on a 30 consecutive day average, 45 mg/l a 7 consecutive day average, and 50 mg/l on a 6 consecutive hour average. Further, all sewage or other polluting matter discharged or permitted to flow into waters of the District shall first have been so treated as to effect a reduction in the oxygen demand of the effluent sufficient to maintain the dissolved oxygen content in the waters of the District and in the general vicinity of the point of discharge of the sewage or other polluting matter into those waters, at a depth of about five feet below the surface, of not less than the dissolved oxygen concentration set forth in Section 2.03.

2.05(d). Total Suspended Solids content shall not exceed 30 mg/l on a 30 consecutive day average, 45 mg/l on a 7 consecutive day average, and 50 mg/l on a 6 consecutive hour average.

2.05(e). Effluents shall contain no floating solids.

2.05(f). All wastes shall be of a character that will not violate or cause violation of the requirements contained in Section 1 "General".

2.05(g). An effluent discharge which does not satisfy the requirements of the Commission shall not be considered to be in violation thereof if caused by temporary excess flows due to storm water conveyed to treatment plants through combined sewer systems, provided that the discharger is operating the facility with reasonable care, maintenance, and efficiency and has acted and continues to act with due diligence and speed to correct the condition resulting from the storm water flow.

2.06. Unless there has been rainfall in greater than trace amounts or significant melting of frozen precipitation during the immediately preceding 24 hours, no discharges to the waters of the Interstate Sanitation District shall occur from combined sewer regulating devices.

### 3. Consistency with States

3.01(a). The following waters of the Interstate Sanitation District are hereby classified as Class A:

- (1) the East River east of the Whitestone Bridge and extending out and including the Long Island Sound waters west of a line from the easterly side of New Haven Harbor at Morgan Point in Connecticut to the easterly side of Port Jefferson Harbor in New York;
- (2) the Hudson River from the New York-New Jersey State line opposite Hastings-on-Hudson to the northerly line of Rockland County on the westerly side and the northerly line of Westchester County on the easterly side.
- (3) The Hudson River from its confluence with the Harlem River to the New York-New Jersey State line opposite Hastings-on-Hudson.
- (4) the Raritan River east of the Victory Bridge and into Raritan Bay and to the lower end of the Arthur Kill on a line drawn from the southernmost

point of Staten Island to the southernmost point of Perth Amboy;

- (5) Sandy Hook Bay;
- (6) the lower New York Bay northerly to a line drawn from the tip of Fort Wadsworth on Staten Island to the tip of Seagate in Brooklyn;
- (7) the Atlantic Ocean and the estuaries and tidal waters thereof west of the easterly side of Fire Island Inlet and continuing into lower New York Bay.

3.01(b). The following waters of the Interstate Sanitation District are hereby classified as Class B-1:

- (1) the Hudson River south of a line from the confluence with the Harlem River into the upper New York Harbor and the portion of the Lower Bay which is north of a line from Fort Wadsworth in Staten Island to the tip of Seagate in Brooklyn. For the purposes of these regulations, the upper New York Harbor terminates at the mouth of the Kill Van Kull (at a north-south line drawn from the northernmost point of Staten Island to the easternmost point at Constable Hook in Bayonne) and to the mouth of the East River (a true east-west line passing through the southernmost tip of Manhattan Island at the Battery and extending to the east shore of the East River in Brooklyn);
- (2) the waters of the East River north of a true east-west line passing through the southernmost tip of Manhattan Island to the Battery extending to the Whitestone Bridge (except that Newtown Creek shall remain B-2) and including the Harlem River to its confluence with the Hudson River;
- (3) the lower portion of the Arthur Kill north of a line from the southernmost part of Staten Island to the southernmost part of Perth Amboy and south of Outerbridge Crossing.

3.01(c). The following waters of the Interstate Sanitation District are hereby classified as Class B-2:

the waters of the Arthur Kill north of Outerbridge Crossing and into and including the Newark Bay up to the mouths of the Passaic and Hackensack Rivers and into the Kill Van Kull west of a north-south line drawn from the northernmost point of Staten Island to the

easternmost point at Constable Point in Bayonne.

3.02. The classifications made by these regulations shall be governed by and implement any water and related land resource plans, water use plans, or pollution control plans adopted by appropriate agencies of the signatory states. To this end, particular waters within a geographic area designated by these regulations as belonging to a given class or subclass shall, notwithstanding such designation, be deemed to belong to the class or subclass which is appropriate for the use or uses prescribed in the state water and related land resource plan, water use plan, or pollution control plan of the state in which the waters in question are situated and which is applicable thereto.

#### 4. Commission Requirements Consolidated

4.01. It is the purpose and effect of these regulations to contain all of the water quality requirements of the Commission, whether in force because expressly set forth in the Tri-State Compact or in force because adopted by the Commission pursuant to the provision of the Compact variously known as Article XVII or Article VII.3. Accordingly, requirements contained in the Compact and still in force are repeated in these regulations and made part hereof. In accordance with Article XVII or Article VII.3 of the Compact, the other provisions of these regulations are in addition to or in substitution for requirements previously in force.

#### 5. Variances

5.01. Any person or other entity discharging effluents is relieved of the requirements for such effluent contained in Section 2.05(c) and (d) if at all times of the year the waters into which the discharge enters meet the requirements of Section 2.03 of these regulations.

The foregoing applies only if the discharger who is discharging biochemical oxygen demand or total suspended solids or both has a permit from the U.S. Environmental Protection Agency or the state pursuant to Section 402 of the Federal Water Pollution Control Act Amendments of 1972 (33 USC 1342), which permit has requirements or limitations relating to discharge of biochemical oxygen demand, total suspended solids, or both, as the case may be, and the discharger is complying with those requirements or limitations.

5.02. Nothing in these regulations shall be construed to encourage or give the sanction of the Interstate Sanitation Commission to the degradation of any waters which are of a quality consistent with these regulations. Accordingly, it is the responsibility of any discharger determining that he will proceed

under these variance provisions to plan and operate his facilities and processes with due regard for present and changing conditions of and affecting the waters in his area. It shall not be a defense to a violation that the discharger did not anticipate or was not aware of changes which have resulted in the applicability of Sections 2.05(c) and (d) to his effluent discharge.

## 6. Policy

6.01. It is recognized that requirements with respect to the treatment and discharge of liquid wastes are subject to change from time to time and that an upgrading of requirements and standards may occur as circumstances make appropriate.

## G L O S S A R Y

AQCR	air quality control region
BNY	Brooklyn Navy Yard
CCNY	City College of New York
CSO	combined sewer overflow
DEC	Department of Environmental Conservation
DEP	Department of Environmental Protection
EPA	Environmental Protection Agency
GC/MS	gas chromatograph/mass spectrophotometer
HP	horsepower
H.S.	high school
HCUA	Hudson County Utilities Authority
HVAC	heating, ventilating, and air conditioning
I/I	infiltration/inflow
I.S.	intermediate school
ISC	Interstate Sanitation Commission
MCUA	Middlesex County Utilities Authority
MGD	million gallons per day
mg/l	milligrams per liter
ml	milliliter
MSW	municipal solid waste
NOAA	National Oceanic and Atmospheric Administration
NJPDES	New Jersey Pollutant Discharge Elimination System
NPDES	National Pollutant Discharge Elimination System
N/SPDES	National/State Pollutant Discharge Elimination System
P.S.	public school
PVSC	Passaic Valley Sewerage Commissioners
RBC	rotating biological contactor
RRF	resource recovery facility
SPDES	State Pollution Discharge Elimination System
SSS	sewer system evaluation study
STP	sewage treatment plant
SUNY	State University of New York
UAA	use attainability analysis
WPCP	water pollution control plant