

# INTERSTATE SANITATION COMMISSION

*A TRI-STATE ENVIRONMENTAL AGENCY*



1993

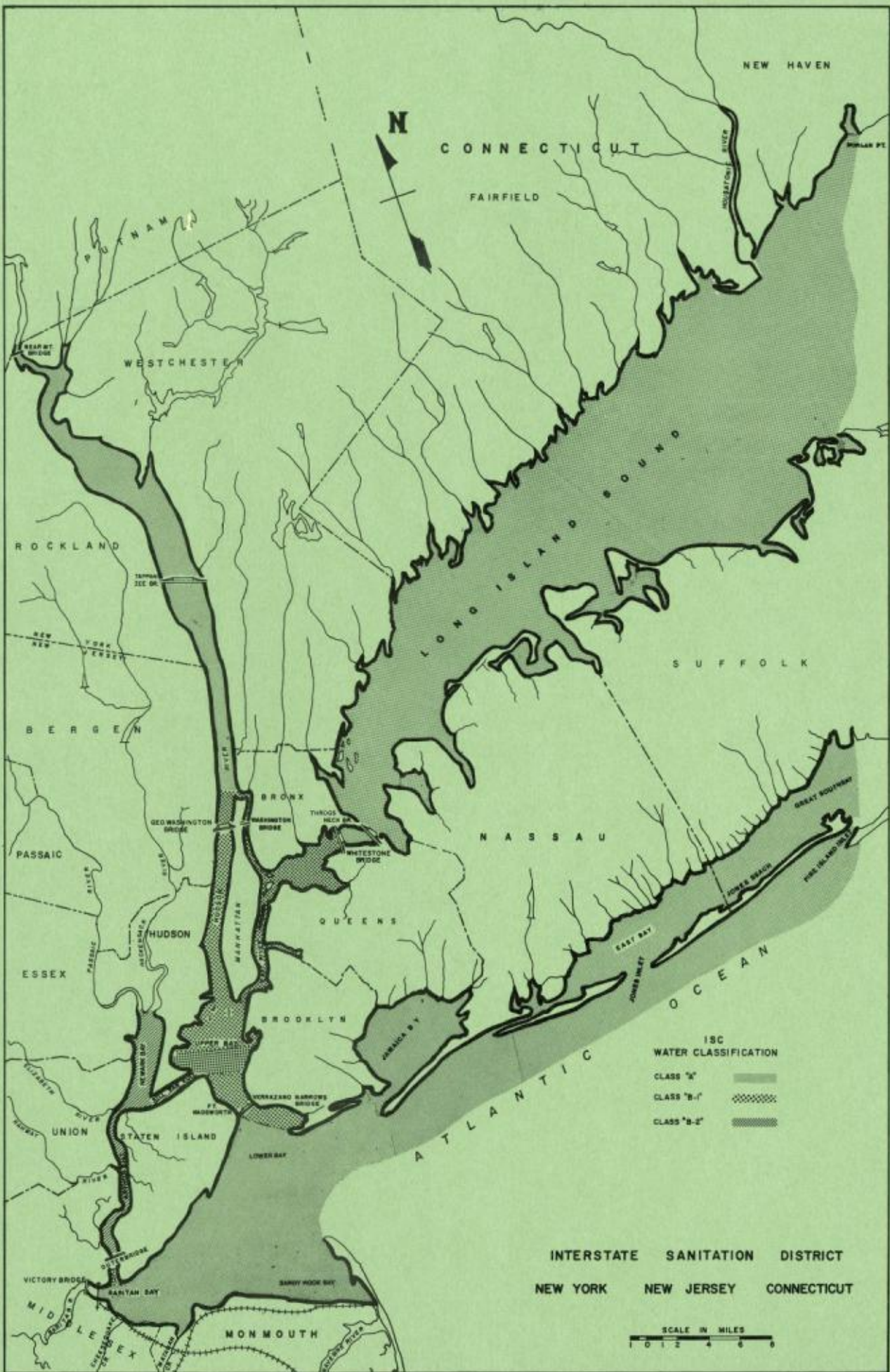
## ANNUAL REPORT

NEW YORK

NEW JERSEY

CONNECTICUT





# INTERSTATE SANITATION COMMISSION

*A TRI-STATE ENVIRONMENTAL AGENCY*



**1993**

**REPORT  
OF THE  
INTERSTATE SANITATION COMMISSION  
ON THE  
WATER POLLUTION CONTROL ACTIVITIES  
AND THE  
INTERSTATE AIR POLLUTION PROGRAM**



# INTERSTATE SANITATION COMMISSION

A TRI-STATE ENVIRONMENTAL AGENCY

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### NEW YORK

Donna B. Gerstle  
Thomas C. Jorling  
Orin Lehman

Acting Director -  
Acting Chief Engineer  
Howard Golub

January 24, 1994

To Her Excellency, Christine Todd Whitman  
His Excellency, Mario M. Cuomo  
His Excellency, Lowell P. Weicker, Jr.  
and the Legislatures of the States of  
New Jersey, New York, and Connecticut

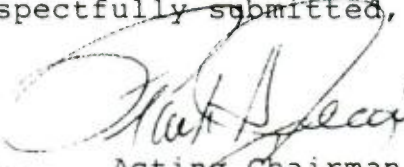
Your Excellencies:

The Interstate Sanitation Commission respectfully  
submits its report for the year 1993.

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,

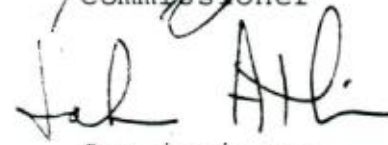
For the State of New Jersey

  
Acting Chairman

For the State of New York

  
Commissioner

For the State of Connecticut

  
Commissioner



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IN MEMORY OF  
COMMISSIONER ANTHONY T. VACCARELLO



1926 - 1993

As a tribute to Commissioner Vaccarello, the following resolution was unanimously adopted by the Interstate Sanitation Commission on December 1, 1993:

- Whereas, Anthony T. Vaccarello** served the Interstate Sanitation Commission with distinction from 1981 to 1990; and
- Whereas, During his tenure as a Citizen Commissioner** he served terms as Chairman, Vice Chairman and Treasurer; and
- Whereas, He so unstintingly gave of his energies and vast experience;** and
- Whereas, He defended the Commission against outside pressures to insure that the Commission's high standards were maintained;** and
- Whereas, His guidance and efforts have resulted in a cleaner, healthier environment for all citizens within this region;** and
- Whereas, the passing of Anthony T. Vaccarello on November 8, 1993 has been sadly noted; now, therefore,**

*Be it resolved by the Interstate Sanitation Commission:*

That the Interstate Sanitation Commission and its member States recognize and are grateful for **Anthony T. Vaccarello's** selfless dedication and contribution to the health and welfare of the citizens of this region through his protection of the environment.

IN MEMORY OF  
THOMAS R. GLENN

Director and Chief Engineer/Executive Secretary



1917 - 1992

As a tribute to Mr. Glenn, the following resolution was unanimously adopted by the Interstate Sanitation Commission on March 3, 1993:

**Whereas, Thomas R. Glenn** served the Interstate Sanitation Commission with distinction from 1956 until 1983; and

**Whereas, As Director, Chief Engineer and Executive Secretary** of this tri-state Commission from 1958 until his retirement in 1983, his pioneering concepts in the field of environmental control led the way for much of the progress achieved to date; and

**Whereas, His recognition and foresight** in the areas of pollution prevention and control resulted in many of the measures that are in place today; and

**Whereas, His vision, efforts and accomplishments** have resulted in a healthier place for all citizens within this tri-state district; and

**Whereas, Thomas R. Glenn** passed away on December 31, 1992; now, therefore

*Be it resolved by the Interstate Sanitation Commission:*

That this Agency and its member States recognize **Thomas R. Glenn** as a true environmentalist and a friend to all who knew him.



STATEMENT OF THE CHAIRMAN  
OF THE  
INTERSTATE SANITATION COMMISSION

We were gratified that our member States recognized the importance of the ISC's work as reflected in New York and New Jersey's contributions to our annual budget. Despite the overall climate of budgetary constraints, we are encouraged and hopeful that, based on our significant accomplishments, the ISC will receive increased funding this year so that we can both restore some programs lost in recent budget cuts and also intensify ongoing programs.

In the matter of ISC's long-standing litigation with New York City regarding garbage transfer operations at the Fresh Kills Landfill, 1993 marked the signing of a final Consent Decree in our action. It calls for the New York City Department of Sanitation to design and construct a single-barge enclosed unloading facility so that the entire garbage unloading operation at Fresh Kills will be conducted within an enclosed area. It is an agreement most environmentalists believe will protect the shorelines of Staten Island and New Jersey from floatables attributable to the garbage transfer operations at the Fresh Kills Landfill.

Regarding the final phase of our litigation to ensure compliance with ISC's Water Quality Regulations at the Hoboken, N.J., sewage treatment plant, we are pleased to report that construction for upgrading the plant to secondary treatment to meet its permit requirements, including this Commission's Water Quality Regulations, will be completed in early 1994. We can now state that as the result of our litigation, all seven of the Hudson County communities involved in litigation with the ISC are now or will soon be providing secondary treatment, thus benefiting the entire region and its citizens on both sides of the Hudson River.

The year was also highlighted by two decisions on issues vital to the Commission's regulatory and enforcement programs. In the case involving permits for New York City's 14 sewage treatment plants, the New York State Department of Environmental Conservation (DEC) Commissioner upheld the DEC Administrative Law Judge's ruling that the ISC's regulations must be explicitly included in the permits. In the second instance, the Commissioner upheld the DEC Administrative Law Judge's ruling that the matter of increased street sweeping in New York City is a "substantive and significant issue" -- a concept many environmentalists feel is crucial to the quality of the waters and shorelines throughout the Metropolitan Area. As a result, the ISC will have its day in court to present its argument that intensified street sweeping in New York City offers a viable plan for preventing floatables from entering our waterways and, thus, protecting tri-state waters and shorelines, including beaches.

I also wanted to express my enthusiasm over our relocating our laboratory to the campus of The College of Staten Island. Not only will we be utilizing new and modern facilities to continue our own independent water quality testing, but we are looking forward to engaging in collaborative efforts with the College that will lead to deeper research into the causes of both water and air pollution.

It is with a deep sense of loss that I note the passing of two distinguished former members of the Commission, Thomas R. Glenn and Anthony T. Vaccarello. "Tom" Glenn served the ISC with distinction from 1956 until 1983 as Director/Chief Engineer and Executive Secretary. His pioneering concepts in the field of environmental control along with his recognition and foresight in the areas of pollution prevention and control resulted in many of the measures that are in place today.

"Tony" Vaccarello became a personal friend who served the ISC as a New York Citizen Commissioner from 1981 to 1990, including one term as Chairman. Dating back to his days as the New York City Commissioner of Sanitation, Tony was a fighter who called them as he saw them. Despite outside pressures -- and there were many during Tony's nine years of service to the ISC -- his support and decisions were based always on what was best for the environment.

On a happier note, I wanted to highlight the Commission's continuing involvement in this region's National Estuary Programs, and particularly our new responsibility coordinating the New York-New Jersey Harbor Estuary Program's data collection efforts for nutrients within the Harbor Complex.

I view the coming year with optimism and look forward to our continuing and expanding the Commission's program of activities and the scope of our work -- in sampling, testing, regulation and enforcement, including litigation when we must. In addition, I am hopeful that we can continue to cooperatively work with federal, State, county and municipal agencies, so that all of us can move forward together in improving the environment and, therefore, the overall quality of life throughout this tri-state region.



Frank A. Pecci  
Acting Chairman  
Vice-Chairman, New Jersey



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## I. EXECUTIVE SUMMARY

In the mid-1930s, when interstate conflicts began to arise regarding pollution in the waters surrounding and shared by the States of New York, New Jersey and Connecticut, the Tri-State Treaty Commission recommended the establishment of a body to control and abate water pollution. Following their recommendation, the Tri-State Compact establishing the Interstate Sanitation District and the Interstate Sanitation Commission was enacted in 1936, with the Consent of Congress. The ISC initially consisted of the States of New York and New Jersey; the State of Connecticut joined the Commission in 1941. Originally dealing only with matters concerning water pollution, air pollution was added to the scope of the Commission's activities in 1962. In 1970, the Commission was designated as the official planning and coordinating agency for the New Jersey-New York-Connecticut Air Quality Control Region.

Facilities for treating sanitary wastes began to become operational in the late 1880s. By the 1930s, of the 1.61 billion gallons per day (BGD) of sanitary and industrial sewage being discharged within the Interstate Sanitation District, approximately 1/3 was receiving primary treatment and the remaining 2/3 was flowing into the Region's waters untreated. The ISC has been instrumental in getting wastewater treatment facilities built and upgraded to prevent pollution in the District's waters. By 1994, approximately 2.5 BGD of treated sewage discharged in the Interstate Sanitation District will be receiving secondary treatment. Yet to be addressed are the untreated discharges from combined sewer overflows (CSOs) and storm sewers, and approximately 0.6 to 2 MGD of raw sewage discharges.

While more work remains to be done, significant environmental gains have been made in recent years. In the past several years, due to a great degree to ISC's year-round disinfection requirement which went into effect in 1986, thousands of acres of shellfish beds have been opened on a year-round basis; very few beach closings due to elevated levels of coliform bacteria or wash-ups of debris have occurred during the last four bathing seasons; and the presence of many and varied finfish stocks have been available for commercial and recreational harvest.

Operations at the Commission have been severely curtailed since July 1989, as the result of that fiscal year's 35% budget cut. Subsequent cuts to the ISC budget necessitated personnel reductions to the point where the present staff is approximately 50% of its size from that of fiscal year 1988-1989. Despite these reductions, the staff has performed to its utmost to fulfill the technical and administrative responsibilities. Most of the ambient and effluent water quality sampling programs remain

drastically reduced and, except for the Staten Island odor complaint answering service and limited investigations, the air pollution programs have been virtually eliminated.

All programs of the ISC, including field and laboratory support, are goal-oriented to address specific environmental deficiencies or to assure compliance with the Tri-State Compact and the Commission's Water Quality Regulations. Samplings done by the Commission -- whether at sewage treatment plants, industries, in the ambient waters or in the air -- are for gathering information for enforcement actions, opening waters for shellfishing, opening waters for swimming, the development of water quality and/or effluent criteria, and other specific situations, as necessary.

As early as the 17th century, the region comprising the Interstate Sanitation District has been a living landscape. Many of the stresses of population and industrialization can be generally assessed in terms of use impairments which have measurable social and economic effects. What is of utmost concern is to ensure that as changes occur, they are not done at the expense of the environment. Living marine resources, waterborne commerce, recreation, residential and commercial/industrial complexes, as well as historic preservation, cannot only be maintained and achieved, but they can do so and exist in harmony with the environment.

The Commission conducts an aggressive public involvement, education and outreach program. ISC regularly testifies at public hearings and meetings on various issues of concern throughout the region. For several years, ISC has given lectures at local colleges on subjects dealing with coastal pollution, oceanography, sampling and data collection, and related Commission activities. During the past four years, the Commission has been a sponsor for Our World Underwater which gives young scholars the opportunity to get nationwide exposure to diverse organizations involved with the marine environment. As part of the Commission's public outreach program, during October, the ISC participated in the Second Annual Lighthouse Festival on the Hudson River shoreline in New York City and in the Tenth Annual New Jersey Environmental Exposition. An exhibit and information booth were maintained by the staff for both of these events. The Commission also regularly interacts with a number of professional, civic, environmental, and citizens' organizations.

This report provides a record of the water and air pollution activities of the Interstate Sanitation Commission. To address the environmental problems within its area of jurisdiction, the Commission has focused on technical assistance, enforcement, planning, laboratory analysis, monitoring and coordination.



## WATER POLLUTION

The Commission's programs for water pollution abatement have continued to focus on providing assistance for the effective coordination of approaches to regional problems. ISC is continuing to work toward its long-standing goal of making more areas available for swimming and shellfishing. Priorities have been set for enforcement, minimization of the effects of combined sewers, participation in the National Estuary Program including coordinating the data collection effort for nutrients, compliance monitoring, pretreatment of industrial wastes, toxics contamination, land-based alternatives for sewage sludge disposal, ocean disposal of dredged material, and monitoring the ambient waters -- especially with regard to opening new areas for swimming and shellfishing.

A great deal of planning and construction is under way and will provide water pollution control and abatement from municipal and industrial wastewaters discharging into District waters. It is estimated that over \$4.93 billion has been allocated by municipalities in the District for this purpose.

During this past year, the Commission has been involved in several legal actions which are detailed in the Legal Activities section of this report and are highlighted as follows:

- party status in the New York State Department of Environmental Conservation adjudicatory hearing on the State Pollutant Discharge Elimination System (SPDES) permits which that department issued for the 14 New York City water pollution control plants.
- active involvement with Hudson County, New Jersey, communities as to upgrading or eliminating their treatment plants to meet Commission and federal water quality standards.
- achieving a final settlement for a long-term solution to prevent debris from entering the waterways as a result of the unloading operations at New York City's Fresh Kills Landfill.
- involvement in a New York State Department of Environmental Conservation enforcement proceeding against New York City's North River treatment plant on various issues of environmental concern.
- involvement with the Brooklyn Navy Yard Resource Recovery Facility adjudicatory hearing.

Opening presently closed waters for swimming continues to be a high ISC priority. The Commission continued a project to ad-



dress CSO, stormwater and nonpoint runoff problems related to opening areas in the District for swimming. ISC is evaluating various alternatives to determine the geographic area in which control from the various sources is necessary, and the coliform reductions required in order for the waters to meet swimming criteria.

Since completing its region-wide combined sewer overflow (CSO) report in 1988, and subsequently holding a regional CSO conference in 1989, the Commission is continuing to work towards its goal of insuring compatible CSO requirements on a regional basis.

For the sixth consecutive year, ISC's region-wide inventory of development projects within the District has been amassing pertinent information. Among other things, this inventory contains estimates of the amount of sewage that will be generated by proposed projects. This inventory is invaluable to the ISC in determining whether the infrastructure -- the sewage treatment plants and the sewer systems -- has the capacity to accept additional wastewater from the construction of residential and mixed-use buildings, as well as hotels, marinas and recreational facilities.

ISC is a member of the Management Committees for the Long Island Sound Study (LISS) and the New York-New Jersey Harbor Estuary Program (HEP), in addition to participating on various work groups for these studies. The Commission is taking the lead role in coordinating an extensive nutrients data collection program under the auspices of the HEP. ISC will also conduct sampling as part of the program. Presently, the final Comprehensive Conservation and Management Plan (CCMP) for the LISS is being prepared and preparation of the draft CCMP for the HEP is under way. Ultimately, the effectiveness of these management actions and the ability to provide essential information that can be used to refocus management decisions will be needed. A major effort will be made by the Commission to ensure that these programs are integrated and the problems prioritized.

In November, the Commission coordinated a meeting to address bathing beach closure practices that presently exist in the tri-state region. Representatives and officials of the environmental and/or health departments of ISC's member States, as well as the public and environmental awareness groups, took part in the day-long conference. The agenda included a review of: (1) bathing beach criteria, (2) procedures for assessing water quality, and (3) procedures for closing beaches. Presentations and discussions addressed the status of past bathing seasons as well as State and federal regulations, a national indicator organism and the need for regional and/or national uniformity. This is an unfunded program identified by the Pathogens Work Group of the Har-

Harbor Estuary Program; ISC agreed to perform the work and supply the results to the HEP.

ISC continued to monitor waste discharges from public and private treatment plants to check compliance with discharge permit limitations. Several field investigations were also conducted in response to citizens' water pollution complaints. Using the ISC research vessel, the R/V Natale Colosi, the Commission participated, for a third consecutive year, in a multi-agency intensive survey in Long Island Sound to document dissolved oxygen conditions.

Since 1981, the Commission has been involved with the US Army Corps of Engineers' (ACOE) Dredged Material Disposal Management Plan for the Port of New York and New Jersey. An ISC staff member has been serving as chairman of the Public Involvement Coordination Group since 1987. Sponsored by US EPA - Region II, ACOE - New York District, NJ DEPE and NYS DEC, two Dredged Materials Management Forums were held during this past June and August. The region needs to include all stakeholders in an effort to develop solutions that balance dredging requirements of the Port of New York and New Jersey with sound environmental and economic disposal alternatives. The Commission is taking an active role by participating on several work groups.

The ISC laboratory is certified by New York State and New Jersey and has continued to participate in the US EPA's Water Pollution Laboratory Evaluation Program and Water Supply Microbiology Performance Evaluation Study. The ISC laboratory also conforms with all recommended procedures of the US Food and Drug Administration. During November 1993, ISC entered into an agreement with the College of Staten Island (CSI) to relocate the laboratory to the College's Center for Environmental Science. The laboratory is expected to be fully operational by early 1994. Besides its normal analyses, the laboratory will be collaborating with CSI on environmental projects of mutual concern.

ISC's library holdings continue to be updated and provide an accessible regional depository of air and water quality related subjects. Its up-to-date, as well as historical holdings, have been sought and made available to the academic community, consulting engineering firms, and environmental and public awareness groups, as well as to government agencies across the nation. This year, inquiries as well as visiting researchers from Canada, Hong Kong, Germany and the United Kingdom made use of the Commission's library.

#### AIR POLLUTION

The Commission's air pollution monitoring and response programs remained drastically reduced this past year due to budget-



ary restrictions. However, ISC continued its role as coordinator of the High Air Pollution Alert and Warning System for the New Jersey-New York-Connecticut Air Quality Control Region. Conditions during the past year did not warrant activation of the system.

During 1993, ISC again participated in the Ozone Health Message System to alert the public of unhealthy ambient air conditions. Based on information received from its member States, the Commission disseminated health messages to radio and television stations, as well as to government agencies in the Region.

During the 12 months from October 1992 through September 1993, the Commission received 160 air pollution complaints -- an increase of 11.1% over the previous 12-month period. As in the past, most of the calls originate from Staten Island and, this year, 157 out of 160 calls originated from Staten Island. It is unfortunate that the ISC's Staten Island field office remains closed -- a situation that has existed since June 1989 when, due to budget cuts, the Commission was forced to lay off its entire air pollution field staff and close the Staten Island field office. The 24-hour-a-day, 7-day-a-week answering service has been maintained and the Commission investigates as many complaints as its resources will allow. ISC also forwards complaints to the appropriate enforcement and health agencies.



## II. WATER POLLUTION

### GENERAL

During 1993, over \$4.93 billion was allocated for 200 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: nearly \$131.9 million for 26 completed projects, nearly \$3.3 billion for 92 projects in progress, and over \$1.5 billion for 82 future projects. These expenditures are being used for engineering studies, CSO abatement projects, land-based alternatives for sewage sludge disposal, construction of new facilities and upgrading and/or expanding existing facilities in order to provide adequately treated wastewater for discharge into District waterways. These figures do not include the monies spent by industries for pollution control.

While great expenditures on the infrastructure have resulted in significant improvements throughout the District these past years, there is still much room for improvement. It has always been the Commission's contention that receiving water quality can be improved, or at least maintained, as well as minimizing "use impairments" if adequate infrastructure is in place. By early 1994, all primary sewage treatment plants in the District will have been upgraded to secondary treatment or diverted their flows to regional plants for treatment.




Now that universal secondary treatment is nearly attained, the elimination of combined sewer overflows (CSOs) or the amelioration of their adverse effects is necessary. Several communities region-wide have already started to separate sanitary and storm sewers. Other structural alternatives have been initiated, such as swirl concentrators and retention tanks. On several selected tributaries, New York City has installed booms to contain CSO discharges and then deploys skimmer boats to collect the captured floatables. ISC has been advocating the use of increased street sweeping as a short-term, interim floatables control measure until other short-term measures and long-term structural and/or nonstructural measures are in place and operational.

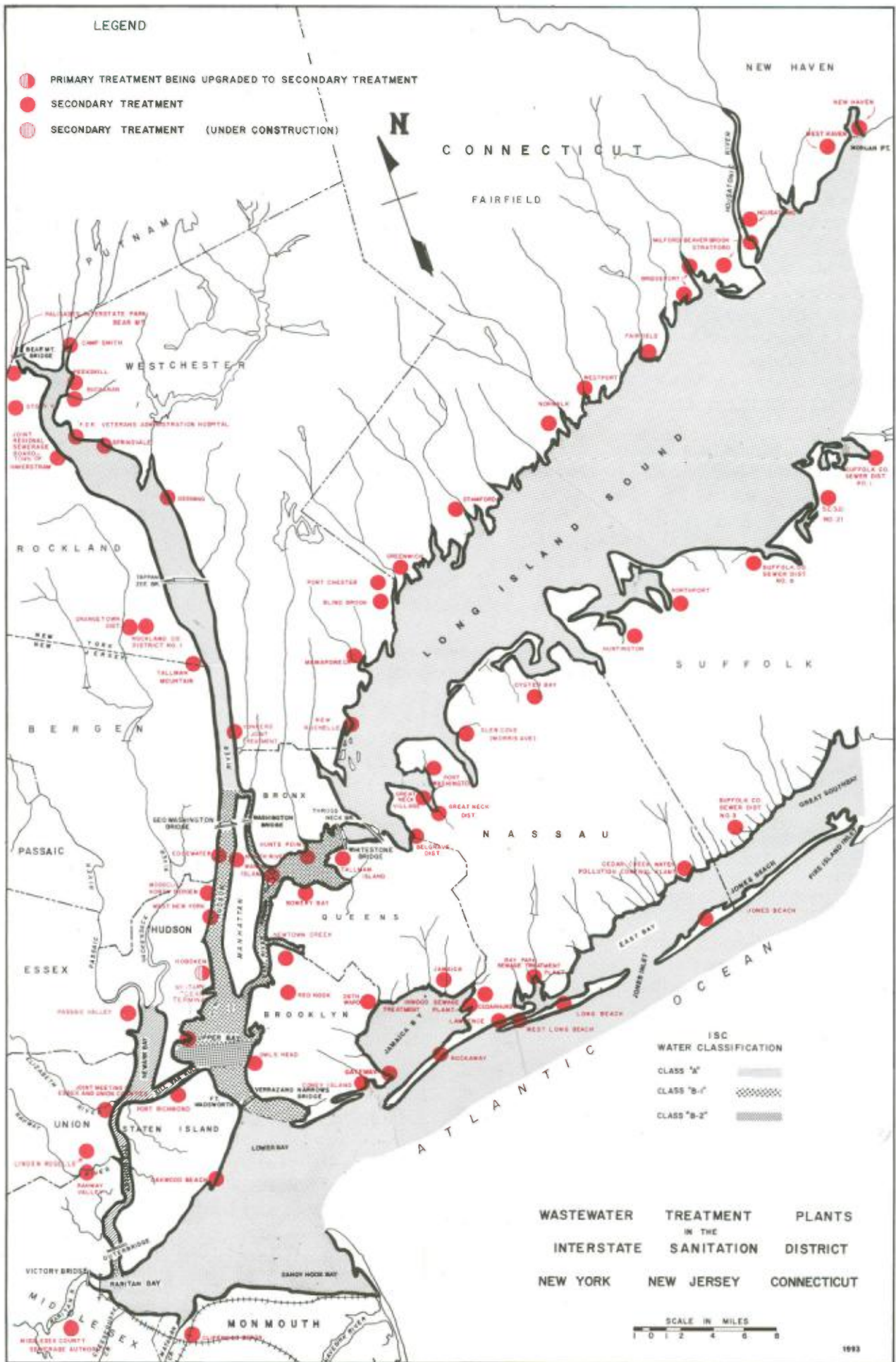
The Commission obtained the information on water pollution control projects presented in this section from officials in the representative state and local governmental agencies, sewerage authorities, consulting engineering firms, and national depositories of water quality data and industrial/municipal effluent data. The information in this section is that which was available through November 1993.

A map of the Interstate Sanitation District, on the follow-

ing 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 BEING UPGRADED TO SECONDARY TREATMENT
-  SECONDARY TREATMENT
-  SECONDARY TREATMENT (UNDER CONSTRUCTION)



ISC  
WATER CLASSIFICATION

CLASS "A" 

CLASS "B-1" 

CLASS "B-2" 

WASTEWATER TREATMENT PLANTS  
IN THE  
INTERSTATE SANITATION DISTRICT

NEW YORK NEW JERSEY CONNECTICUT





## CONNECTICUT WATER POLLUTION CONTROL PLANTS

The Long Island Sound Study Policy Committee (consisting of the Regional Administrators of US EPA - Regions I and II, and the Commissioners of the State environmental departments in New York and Connecticut) adopted a "no net increase" policy in December 1990, in order to reduce nitrogen loadings into Long Island Sound and the Upper East River. The focus of this reduction is on key municipal wastewater facilities and nonpoint sources through structural and nonstructural modifications. Excess nitrogen has been identified as the limiting factor contributing to hypoxic conditions (low dissolved oxygen concentrations). For additional information, refer to the write-up on the National Estuary Program elsewhere in this report.

The Commissioner of the Connecticut Department of Environmental Protection has negotiated Consent Orders with several municipal treatment facilities which discharge into Long Island Sound or major riverine drainage basins for the implementation of the "no net increase" policy for nitrogen discharges. The Consent Orders require a facility evaluation for nitrogen reduction retrofit capabilities, nitrogen loading reduction projections and costs to achieve the necessary modifications.

This policy has been implemented at 16 Connecticut municipal treatment facilities from Clinton Harbor westerly to the New York State border. Of the 12 facilities in the Interstate Sanitation District, seven have biological nutrient removal (BNR) Consent Orders: Milford (Beaver Brook and Housatonic), New Haven, Norwalk, Stamford, Stratford and Westport. Refer to the individual plant write-ups for a status report.

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

#### Projects in Progress

Construction began recently (2% complete) at the West Side plant. The re-estimated cost of \$35.2 million will finance rehabilitation of all units, as well as new pumps and instrumentation at this 30 MGD secondary treatment facility.

Rehabilitation of the chlorination facilities is 79% complete. At a cost of \$2.254 million, an operational start-up is expected during November 1993 at both of the plants.

The Bridgeport drainage basins (comprising 3,880 acres) have ongoing improvements which are addressing a massive re-

duction of combined sewer overflows. This work is 20% complete. Eventually, 40 CSOs which discharge into Black Rock and Bridgeport Harbors will be eliminated. The 19 remaining CSOs will be monitored by a remote telemetering system. Partial operational start-up began during June 1992. At a cost of over \$27 million, approximately four to seven additional years of construction is anticipated.

The Authority has allocated about \$1.5 million per year for sewer system rehabilitation in both drainage basins; this agenda is ongoing.

#### Future Projects

Both treatment facilities are operating under State Consent Orders to improve plant performance and attain secondary treatment capabilities. Recently, the Authority negotiated new compliance dates with the City of Bridgeport.

Re-estimated at \$34 million, the proposed rehabilitation start-up of the East Side plant has again been postponed to November 1994. Besides the rehabilitation of the preliminary, primary, and secondary treatment units; modernization of the electrical and mechanical equipment, as well as pumps and instrumentation, are planned.

It is proposed that both plants share sludge disposal facilities which will cost \$22.4 million. Sludge processing will be sited at the East Side plant.

### Fairfield, Connecticut (Fairfield County)

#### Project in Progress

An engineering study that is addressing I/I reduction (50% complete) has an estimated cost of \$1 million.

#### Future Projects

This facility is presently operating under a State Consent Order to install BNR equipment and eliminate I/I. Approximately \$4 million will be needed in order to implement BNR capabilities. Nitrogen reduction will be accomplished by aeration tankage modifications and the use of synthetic media. A construction start-up date is planned for August 1994. I/I reduction costs are estimated at over \$6 million, but an elimination schedule has yet to be proposed.



Greenwich, Connecticut (Fairfield County)

Projects in Progress

This facility is presently operating under a State Administrative Order to increase treatment capacity. Eighty percent of the work is complete for a capacity increase to 12.5 MGD and for rehabilitative work. As of June 15, 1993, a major portion of the plant was put on-line, including the biological nutrient removal capabilities. The entire facility is projected to be fully operational by February 1994. Final costs are estimated to be \$43 million.

Design work is 50% complete for the solids handling phase. A construction start-up is planned for May 1994.

Milford - Beaver Brook, Connecticut (New Haven County)

Future Project

Retrofitting of the aerators for nitrogen removal is planned. The estimated \$653,000 improvement does not as yet have an implementation schedule.

Milford - Housatonic, Connecticut (New Haven County)

Completed Project

Final clarifier improvements were completed at an estimated final cost of \$43,500.

Future Project

Rescheduled to start during January 1994, this facility will be retrofitted for nitrogen removal. The \$800,000 project is expected to be complete during June 1994.

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

Completed Project

An interim BNR assessment was conducted at a cost of \$30,000. The report was prepared and is being reviewed by the Connecticut DEP.

Projects in Progress

This facility is operating under a State Consent Order (modified April 19, 1991) to address staff needs and facility maintenance, perform a solids production study, assess incinerator modifications, evaluate design concerns of vari-



GREENWICH WATER POLLUTION  
CONTROL PLANT  
FAIRFIELD COUNTY, CONNECTICUT



PHOTO COURTESY OF  
GANNETT FLEMING

FINAL AERATOR WITH FINE BUBBLE DIFFUSERS



PHOTO COURTESY OF  
GANNETT FLEMING

FINAL CLARIFIER

ous plant units, and install storm flow diversions.

Sewer separation construction has been ongoing since 1989 and will continue until combined sewers discharging to New Haven Harbor are eliminated. The entire drainage basin encompasses 14,300 acres. An estimated completion date is well into the next century (2015), with costs accruing to \$130 million.

An estimate of \$5 million was made for the installation of a third primary tank and baffling of existing primary and secondary clarifiers. The secondary treatment facilities are concurrently being modified to provide nitrogen removal; the work is approximately 60% complete.

Flow metering of the return-activated sludge and storm flow diversions is 80% complete. Costs are estimated at \$160,000.

### Norwalk, Connecticut (Fairfield County)

#### Projects in Progress

This plant is operating under a 1987 State Consent Order to achieve discharge permit limitations and requirements.

Expenditures of \$1.5 million are estimated for all collection system improvements and rehabilitation. Sewer separation work is ongoing.

At an estimated cost of \$1.1 million, the secondary process is being retrofitted for biological nutrient removal. The existing aeration tankage is being modified with fine bubble diffusers, internal baffles, mixers and pumps; this work got under way during this past October.

Additional design work for the BNR retrofit, as well as a plant capacity expansion, is planned for completion in February 1994. Water quality modelling work is being conducted in Norwalk Harbor in order to avoid contravention of effluent limitations.

#### Future Project

At an estimated cost of \$50 million, a two year construction schedule is planned in order to expand this secondary facility to a capacity of 20 MGD. An approximate start-up is set for late 1994.

Stamford, Connecticut (Fairfield County)

Projects in Progress

Estimated to cost \$6 million, reduction of I/I and installation of an interceptor on Hope Street are 85% complete.

Two engineering studies were completed recently -- preliminary designs for sludge processing and main pump controls. Bid proposals are being sought for construction.

Future Project

Nitrogen loading reductions will be accomplished by retrofitting the aerators. An estimate of over \$1 million was made for all construction which is to begin in mid-1994.

Stratford, Connecticut (Fairfield County)

Projects in Progress

This facility is operating under a State Consent Order (September 1988) to evaluate and correct operating deficiencies. An evaluation for improving plant performance and an I/I study are under way.

Interim denitrification construction is 10% complete. The \$1.026 million retrofit will be on-line during 1994.

Recently under way, a \$5 million trunk line replacement project is 10% complete.

West Haven, Connecticut (New Haven County)

Projects in Progress

This plant is operating under a State Consent Order to complete necessary plant rehabilitation, perform collection system upgrades and eliminate overflows. West Haven's Municipal Compliance Plan specifies the completion of substantial construction by February 1994.

A \$4 million plant rehabilitation is 70% complete. Work is commencing on the primary and secondary clarifiers, secondary sludge thickeners (ceramic diffusion system), and the installation of blowers. Additionally, the following installations are under way: new equipment for the main station, an aerated grit chamber, generators and a chlorine contact tank. Concurrently, modifications (\$746,000) for nitrogen reductions are being initiated.



Collection system rehabilitative work, which began during May 1992, is addressing I/I, relief interceptors, and upgrading pump stations. I/I work has identified a major source of extraneous inflow as illegal basement sumps. Prioritizing West Haven's entire 6,890 acres has led to the need for design work for storm sewer extensions and lateral hookups. Final costs are expected to reach \$14 million.

#### Westport, Connecticut (Fairfield County)

##### Projects in Progress

Collection system extensions and maintenance and rehabilitation work have been ongoing since 1985. Pump station rehabilitation, force main and interceptor repairs, as well as an average installation of nearly two miles of new gravity sewer lines per year are continuing agenda items.

This facility is presently operating under a State Infiltration/Inflow Abatement Order. An I/I evaluation is nearly complete. Repairs and corrective work are scheduled for 1994 through 1997, at an estimated cost of \$250,000 per year.

##### Future Project

Expected to begin during the spring of 1994, nutrient removal modifications will consist of timers on the aerators, baffles and full radius skimmers in the secondary clarifiers, a new flow-splitting box, addition of a polymer feed upstream of the secondary clarifiers, and a new sludge washing system. Twelve months of construction is scheduled for this \$400,000 retrofit.

## NEW JERSEY WATER POLLUTION CONTROL PLANTS

### Aberdeen Township Municipal Utilities Authority - Cliffwood Beach, New Jersey (Monmouth County)

#### Future Projects

An estimated \$600,000 will be needed to construct a pump station. Subsequently, all flows will be diverted to the Bayshore Regional Sewerage Authority facility for treatment. A rescheduled construction start-up date has been set for November 1993. An additional \$2.5 million will be needed to install force mains to convey all wastewater flows. The pump station and collection system is scheduled to be operational by February 1995.

This facility is operating under an amended State Administrative Consent Order (April 23, 1992) to cease effluent discharges to Whale Creek and Raritan Bay and to establish an Atlantic Ocean outfall.

Refer to the Bayshore Regional Sewerage Authority write-up for additional information.

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

#### Projects in Progress

A new pump station is being built on this site to convey wastewater flows to the Bayshore Regional Sewerage Authority's facility via the Cliffwood Beach collection system. Construction began during November 1993 and will cost about \$150,000.

By February 1995, at a cost of \$350,000, force main installations will connect the proposed River Gardens pump station to the Cliffwood Beach sewer system. Construction is planned for late January 1994.

This facility is operating under an amended State Administrative Consent Order (April 23, 1992) to cease discharge of treated effluents to Matawan Creek and to establish an ocean outfall.

Refer to the Bayshore Regional Sewerage Authority write-up for additional information.

Aberdeen Township Municipal Utilities Authority - Strathmore, New Jersey (Monmouth County)

Completed Projects

Pump station construction was completed at a final cost of over \$753,000. As of April 20, 1993, all flows were diverted for treatment at the Bayshore Regional Sewerage Authority facility. The original plant, which was built in 1964, is being demolished at a cost of \$1 million.

In order to address collection system logistics, approximately \$1.5 million was spent for force main installations.

This facility is operating under an amended State Administrative Consent Order (April 1992) to cease discharge of treated effluents to receiving waters.

Refer to the Bayshore Regional Sewerage Authority write-up for additional information.

Bayshore Regional Sewerage Authority, New Jersey (Monmouth County)

Projects in Progress

The Bayshore Regional Sewerage Authority is operating under a State Administrative Consent Order (June 30, 1991) to complete the facility expansion and upgrade. Wastewater discharges from this facility are to a part of the Atlantic Ocean which is outside of the Interstate Sanitation District.

This secondary activated sludge plant is undergoing expansion and construction (40% complete) to upgrade to a capacity of 16 MGD utilizing a fine bubble process. A re-estimate of \$44 million has been made for all construction phases. The expansion/upgrade is planned to be in operation during June 1995. The additional capacity will enable the Bayshore Regional facility to treat flows from Aberdeen Township.

Estimates of \$8 million have been made for new sludge dewatering facilities and an incineration upgrade. A 12-month construction schedule has been proposed with a start-up date of early 1994.

Refer to the Aberdeen Township write-ups for additional information.



## Edgewater, New Jersey (Bergen County)

### Project in Progress

Rehabilitation and equipment replacements of Pumping Station #2 are 95% complete. The \$300,000 job will be completed during early 1994.

### Future Projects

Pumping Station #3 reconstruction and trunk sewer installation is estimated to cost about \$1 million. Construction start-up dates have not yet been determined.

Construction of a sludge pelletizing facility has been shelved indefinitely. No longer cost-effective, the long-term disposal alternative is to use a western New Jersey landfill.

## Hoboken, New Jersey (Hudson County)

### Projects in Progress

The ISC, US EPA and NJ DEPE have active Consent Orders with the Hoboken-Union City-Weehawken Sewerage Authority (HUCWSA) to ensure compliance with Commission, federal and State requirements. Subsequent to negotiations among the parties, a 24 MGD secondary treatment facility is being built and is 90% complete. The new facility will incorporate trickling filters and ultraviolet disinfection. An estimate of nearly \$96 million has been made for all construction; an operational start-up date has been set for January 31, 1994. The expanded and upgraded plant will also provide treatment for portions of Union City and Weehawken.

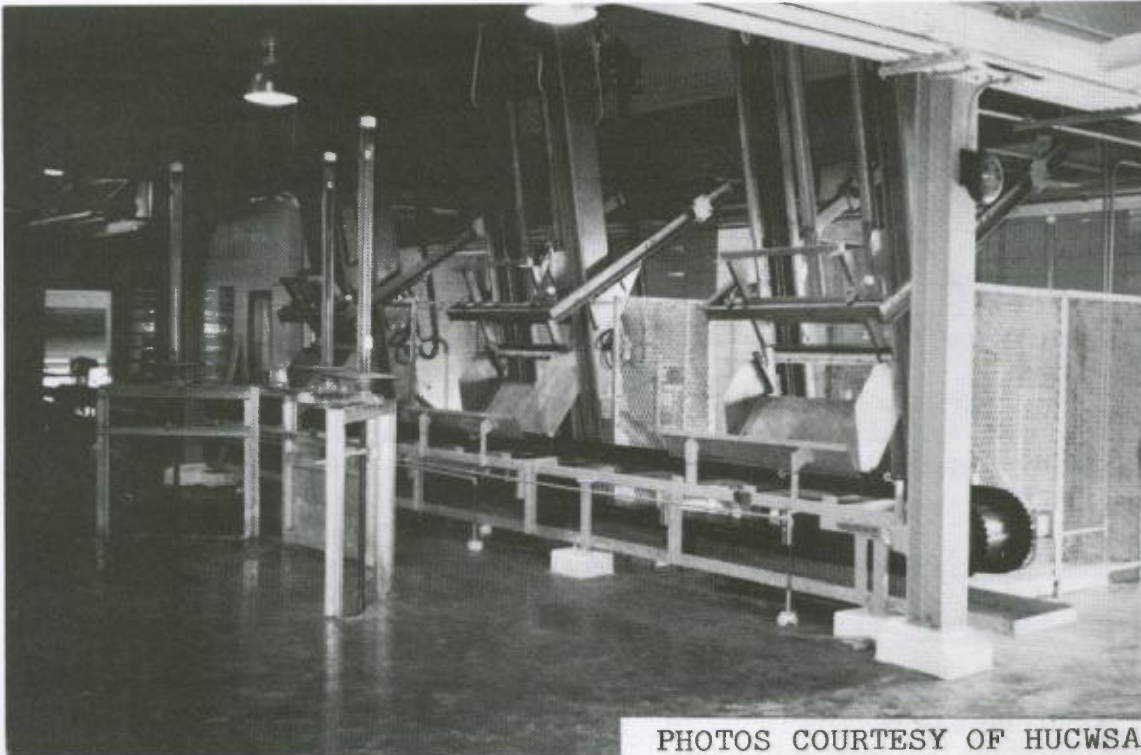
A CSO study is under way (10% complete) and will cost \$300,000. Infrastructure studies (70% complete) costing \$100,000 are addressing collection system upgrades and improvements.

For further information, refer to the Legal Activities section of this report.

### Future Projects

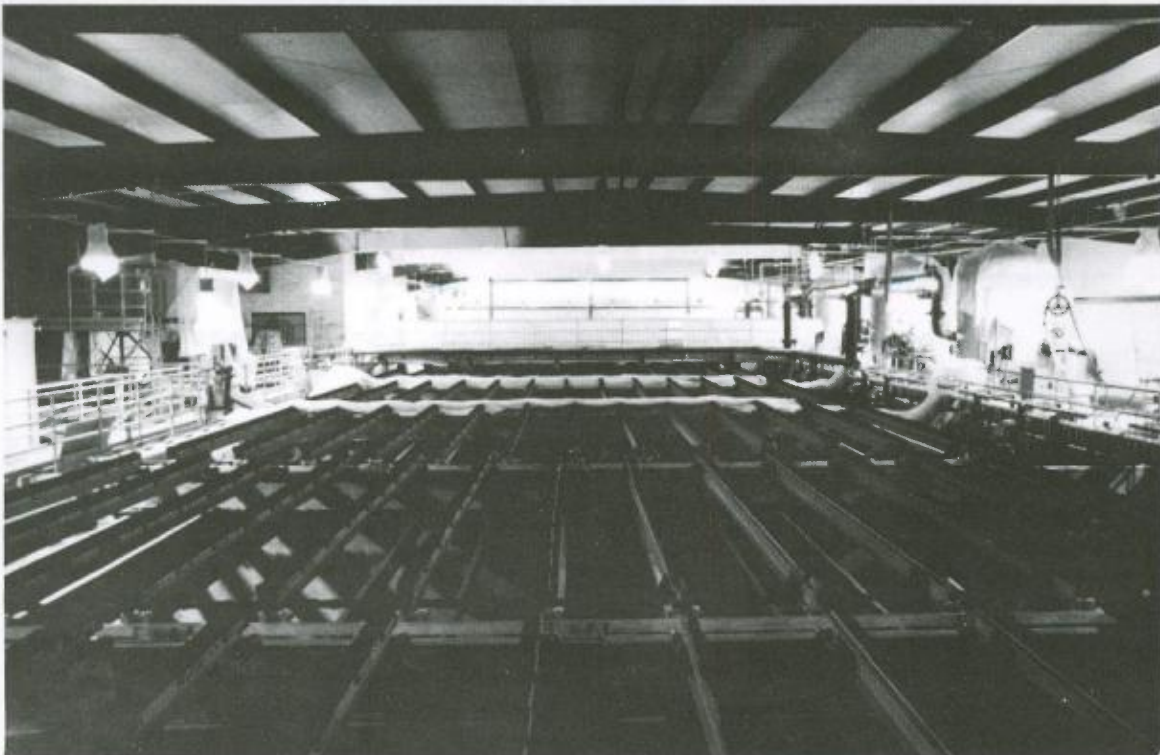
Proposed collection system improvements include installation of a new force main on 18th Street, a new CSO outfall to the Hudson River, and a telemetering system. CSO infrastructure improvements will cost about \$80 million to meet all permit requirements.

HOBOKEN-UNION CITY-WEEHAWKEN  
SEWERAGE AUTHORITY  
HUDSON COUNTY, NEW JERSEY



PHOTOS COURTESY OF HUCWSA

AUTOMATIC BAR SCREENS



ENCLOSED  
SECONDARY FILTRATION AND CLARIFICATION  
FACILITIES



Joint Meeting of Essex and Union Counties, New Jersey (Union County)

Projects in Progress

Approximately 30% of an anaerobic sludge digester rehabilitation is complete. Approximately \$2 million will be needed for this work.

Concurrently, a sludge residual distribution and marketing study is under way.

Future Projects

Construction will start in the spring of 1994 on a sludge drying pelletizer facility. The re-estimated \$20 million project has a three year phased construction schedule.

Additional major agenda items include a primary settling tank upgrade (\$7 million) and two anaerobic sludge digester rehabilitations (\$2 million).

Linden Roselle Sewerage Authority, New Jersey (Union County)

Projects in Progress

An engineering study is under way to assess the conversion to ultraviolet disinfection from the use of chlorine.

The Authority is presently operating under a State Administrative Consent Order (July 1992) to investigate effluent toxicity. Engineering studies are under way to address this issue by exploring industrial pretreatment impacts. Pretreatment controls will be implemented by 1997.

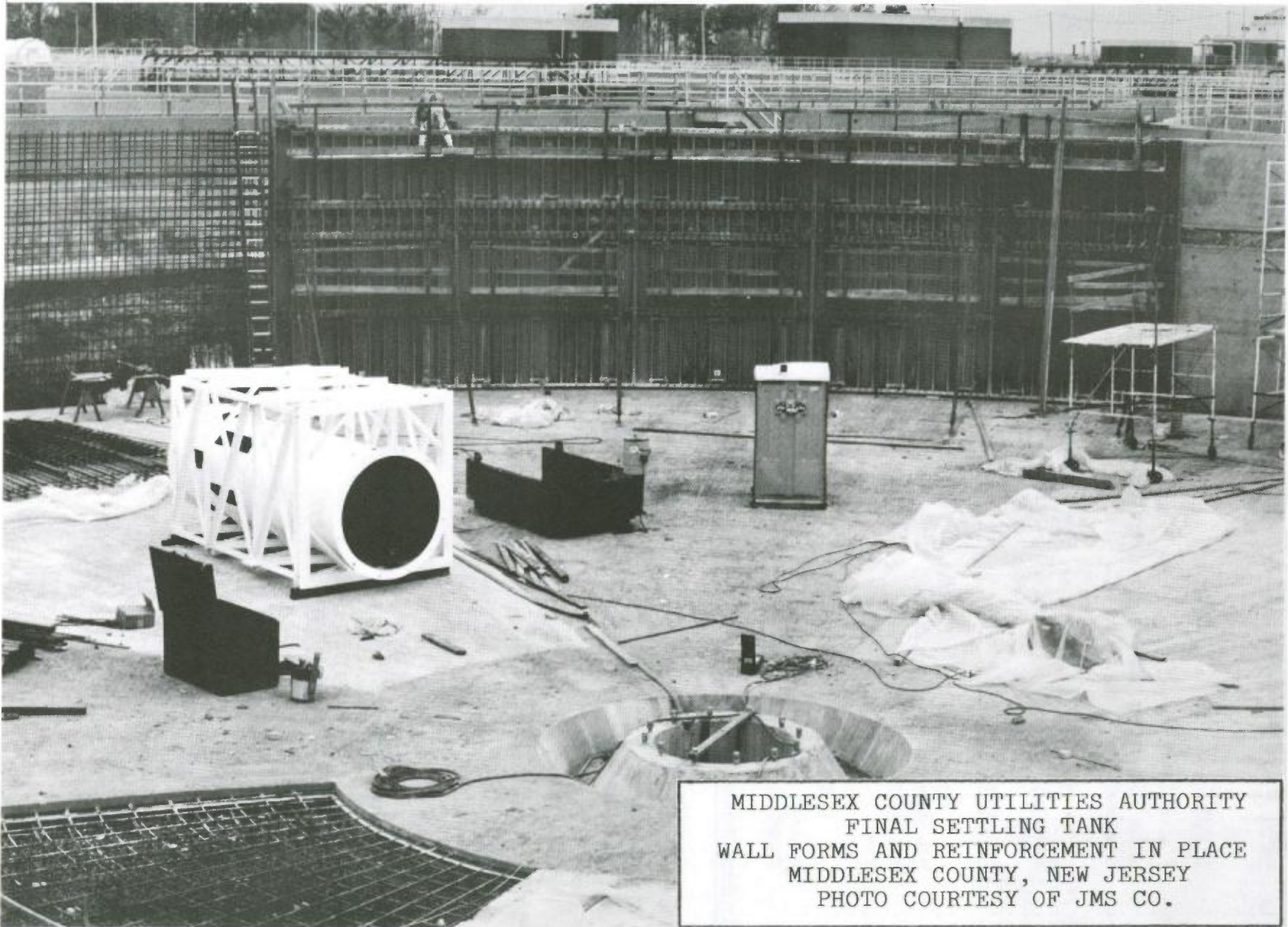
Middlesex County Utilities Authority, New Jersey (Middlesex County)

Completed Projects

Engineering studies have been completed to address different aspects of the sludge handling process: thickener odor control, oxygenation tank upgrade and sludge pelletization. Estimated construction start-up dates have been set for 1994.

At a cost of \$8 million, a curing bunker/odor control system was completed.





MIDDLESEX COUNTY UTILITIES AUTHORITY  
FINAL SETTLING TANK  
WALL FORMS AND REINFORCEMENT IN PLACE  
MIDDLESEX COUNTY, NEW JERSEY  
PHOTO COURTESY OF JMS CO.

### Projects in Progress

The addition of four final settling tanks with associated piping and pumping equipment is 45% complete. The \$6.5 million additions are expected to be on-line during May 1995.

### Future Projects

Two major upgrades are planned for January and February 1994. The first will address the replacement of the dissolution equipment and instrumentation in the oxygenation process (\$7.9 million). The second involves thickener odor controls, including covers and scrubbers (\$3 million).

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

#### Completed Project

Expansion work on the compost facility was completed this past spring. The \$1.025 million project involved the installation of 12 additional temperature control stations (22 total) and computerization of the control blowers.

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

#### Future Project

An interceptor sewer is planned for the waterfront area between North Bergen and Edgewater. The estimated \$4.5 million collection system expansion has a 12-month installation schedule, but the start-up date has not yet been set.

### Passaic Valley Sewerage Commissioners, New Jersey (Essex County)

#### Future Project

Under the ODBA, this facility must implement interim and long-term sludge disposal alternatives. To this end, a sludge incinerator with a capacity of 560 dry tons per day is proposed to be on-line by April 1997 at a final estimated cost of \$350 million.

### Rahway Valley Sewerage Authority, New Jersey (Union County)

#### Projects in Progress

Several engineering studies are nearly complete which address different aspects of the treatment process including



primary building rehabilitations, a sand filter press, a curing bunker for dewatered sludge, and ultraviolet disinfection facilities. Additional studies are under way or proposed: CSO abatement (current - \$141,000), sand filtration (current) and secondary process improvements (proposed at \$54,000).

Rehabilitation of the service building facade is under way at a cost of over \$246,000. Baffles are being installed in the final clarifiers at an estimated cost of \$40,000.

Collection system upgrades are under way, as well as in-line television inspections with subsequent cleaning and replacements.

#### Future Project

CSO abatement plans include screening facilities at two major outfalls.

### West New York, New Jersey (Hudson County)

#### Projects in Progress

Several engineering studies are under way: combined sewer overflow controls (95% complete - \$60,000), noise abatement (50% complete - \$30,000) and an odor survey (25% complete - \$35,000).

#### Future Projects

A four month construction schedule is to begin during January 1994; this work will improve the dechlorination facilities. The addition of bisulfate storage tanks and monitoring equipment is expected to cost \$250,000. A walkway along the Hudson River will give the operator access to the outfall extension (\$20,000).



## NEW YORK WATER POLLUTION CONTROL PLANTS

In accordance with the recommendations of the Long Island Sound Study, the New York State Department of Environmental Conservation - Regions 2 and 3 have reached agreements with New York City and Westchester County, respectively, to limit the discharge of nitrogen. These plants, which discharge and subsequently impact the Long Island Sound, are basing the loading reduction goals on 1990 levels as mandated by the Long Island Sound Study. Negotiations are ongoing between NYS DEC - Region 1 and Nassau and Suffolk Counties as to permit modifications in this regard. Refer to specific plant write-ups and the National Estuary Program section of this report for additional information.

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

#### Completed Project

As of March 27, 1993, this facility diverted all flows for treatment to the New York City DEP's Oakwood Beach WPCP. All treatment processes ceased on April 22, 1993, and the plant is being demolished.

Refer to the Oakwood Beach write-up for additional information.

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

#### Completed Projects

The Bay Park sewage treatment plant has been engaged in a phased construction program since the 1980's to enhance treatment system capabilities and to modify and improve aspects of the facility that have exceeded their useful life.

Rehabilitation of three raw sewage pumps as well as modifications to the electrical system and instrumentation are nearly complete. An estimated cost of over \$3.2 million was incurred for this work.

#### Projects in Progress

Three major construction phases which address primary treatment, engine emissions and odor controls are scheduled for completion during 1994. Estimated at over \$38 million, four new primary sedimentation tanks are being built in addition to rehabilitation of the existing tanks. Emission control devices are being installed in the main dual-fuel engine generators. Costs of over \$4 million will accrue in



BAY PARK SEWAGE  
TREATMENT PLANT  
NASSAU COUNTY, NEW YORK  
PHOTO COURTESY OF LOCKWOOD,  
KESSLER & BARTLETT



order to comply with federal Clean Air Act requirements. Construction of an extension to the screen building, modifications to the scavenger waste facility and additional odor control equipment are expected to cost \$1.45 million.

Concurrently, two warehouses are being built at a cost of over \$4.975 million. To be complete in 1995, these buildings will provide storage of all backup equipment.

#### Future Projects

Three construction phases are planned which address central heating, main building improvements and sludge digestion facilities. Combined, these projects are estimated to cost over \$56.8 million.

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

##### Future Project

An estimate of \$2 million has been made in order to add a trickling filter utilizing a multimedia sand filter. Construction is planned to begin during January 1994.

#### Blind Brook, New York (Westchester County)

##### Future Project

Funded by a US EPA Action Plan Demonstration Project grant, a BNR retrofit was recommended by the Long Island Sound Study. Planned modifications are expected to cost about \$200,000.

#### Bowery Bay, New York (Queens County)

##### Projects in Progress

A stabilization study (\$212,000), which is an overall plant performance evaluation with recommendations to correct deficiencies, was recently completed. Design work based upon the findings is under way.

City-wide, 16 pump stations are undergoing reconstruction at a cost of \$18.838 million. The cost estimates are for fiscal years 1994 through 1996.

Ongoing improvements to the existing facility at a cost of \$11.758 million include installations and/or reconstruction of various units including pumps, digester roofs, polymer system, and secondary screens.



Dewatering facilities for digested sludge are 98% complete. This system went on-line during June 1992; final costs are not available.

This facility and the 13 other New York City municipal wastewater treatment plants are the subject of an ongoing hearing before a NYS DEC Administrative Law Judge. Refer to the Legal Activities section of this report for detailed information.

A City-wide CSO abatement program is under way. The objective is to eliminate or ameliorate the effects of untreated sewage which is bypassed during storm events. The first phase identified the extent to which CSOs result in the contravention of water quality standards. The second phase consists of facility plans involving the entire area of New York City, which has been divided into four major geographical areas of concern. The ultimate goals of the program are the removal of floatable and settleable materials, and the achievement of State standards for dissolved oxygen and coliform bacteria densities. These programs are being conducted in accordance with SPDES permit and/or Consent Order requirements.

A total of \$1.5 billion has been committed by New York City for a 10-year CSO program (currently in its sixth year). Structural and nonstructural solutions to the problem are being evaluated and prioritized. During 1993, NYC DEP installed booms on selected tributaries of Jamaica Bay and the Upper East River to contain CSO discharges. Two skimmer boats were commissioned this past spring to collect the floatables captured by those booms.

Refer to the Legal Activities section of this report for detailed information.

#### Future Projects

An engineering study is planned which will address energy conservation measures and instrumentation replacements.

Collection system installations, reconstruction, and replacements of various structures (sluice gate operators, tide gates, and valves) are scheduled for fiscal year 1994 with costs estimated at over \$180,000.

Buchanan, New York (Westchester County)

Future Projects

The second phase of planned modifications for the main treatment plant is about to begin. Although cost figures are not yet available, upgrades will consist of replacing electrical control and instrumentation equipment.

Collection system upgrades involve a survey of all man-holes. Subsequently, a suitable method of rehabilitation will be chosen and implemented.

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

Project in Progress

Capacity expansion construction is ongoing. This facility was re-rated to a flow of 56 MGD utilizing a secondary activated sludge process. Presently, 90% of an estimated \$39 million phased construction agenda is complete. Aspects of this project include new final screens, a fire protection loop, primary tank expansions and engine emission controls.

Future Project

Expenditures of \$104.7 million are planned for the final construction phases which will increase capacity from 56 MGD to 72 MGD. Agenda items include additions to all primary and secondary treatment units, as well as an expansion of the special projects laboratory.

Cold Spring Harbor Laboratory, New York (Nassau County)

Project in Progress

This facility is being converted to a pump station at a cost of about \$2 million. All flows (0.075 MGD) will be diverted to Nassau County's Cedar Creek Water Pollution Control Plant for treatment.

Refer to the Cedar Creek write-up for additional information.

Coney Island, New York (Kings County)

Projects in Progress

Several construction phases at this treatment facility

have begun and others are well under way; combined, 83% of the work is complete. Primary settling tanks, plant maintenance, grit removal facilities, a sludge force main, an engine generator, digester facilities, thickeners, aeration facilities, disinfection equipment, and final settling and sludge thickening tanks are included in this \$620 million project. This facility is expected to be complete by 1997.

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

#### Future Projects

Collection system renovations (tide gate replacements) proposed for fiscal year 1994 will cost \$88,000.

Re-estimated to cost \$66.37 million, a plant support facility which consists of a conglomeration of workshops, is slated for 1994.

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

##### Future Project

A \$457,000 upgrade of the influent pump station is proposed for 1994.

#### Huntington Sewer District, New York (Suffolk County)

##### Future Projects

Estimated costs of \$323,000 will address an assortment of plant modifications including cleaning of the scavenger waste equalization tank, replacement of the equalization and sludge pumps, and upgrading of the grit removal process and scavenger waste screens.

#### Hunts Point, New York (Bronx County)

##### Completed Project

Dewatering facilities were put on-line during June 1992. Final cost figures are not available.

##### Projects in Progress

Reconstruction of various phases of the existing treatment facility, such as the primary screens and electrical supports, is estimated to cost \$4.784 million.

Retrofits are being considered for BNR. Funding appli-



cations are being submitted under the Innovative and Alternative Program of the State Revolving Loan Program. Estimates to implement this modification are \$2 million. In addition, a proposed pilot project will address treatment of the centrate produced by sludge dewatering.

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

### Future Projects

Improvements to the existing plant, including installations and reconstruction of various treatment units, are slated for fiscal year 1994 (\$3.817 million).

## Inwood, New York (Nassau County)

### Projects in Progress

An engineering study consisting of process performance evaluation of the plant's operating systems is under way.

Repairs to the secondary anaerobic digesters are 70% complete. The cost allocated for this work is \$1.05 million.

## Jamaica, New York (Queens County)

### Projects in Progress

Estimated at over \$51 million, new primary tanks and associated support equipment are being constructed.

Engineering studies that began this year include an energy conservation and instrument replacement assessment, an SSES (\$2.279 million) and design work for selected alternatives of a stabilization study.

### Future Projects

Plant stabilization construction will address major unit process upgrades. Over \$12 million is estimated for the addition of a primary settling tank, a new primary feed distributor, return sludge pumps, new main sewage pumps and discharge headers, and valving on all aeration piping. This work is proposed to begin during July 1994.

Collection system renovations are scheduled to include two new pump stations (\$9.6 million) and tide gate replacements (\$100,000). Construction will commence during 1994.

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

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

Completed Project

Renovations to the digesters were completed this past spring before the start of the bathing season. This work included a new floating cover, heating elements, valves, a gas line, a recirculation pump and a temperature recorder. Final costs were \$170,000.

Lawrence, New York (Nassau County)

Completed Project

Conversion to a liquid hypochlorite system was completed recently. The \$400,000 project included a new building and an extension of the contact tank.

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

Future Projects

This plant is operating under federal and State Consent Orders to attain secondary treatment levels. An estimate of \$6 million has been made to upgrade three lift stations, as well as install a boiler for gas digestion, a gas mixer, and a dewatering unit. An additional \$2 million is proposed for a new chlorine contact tank with a construction start date of December 1993.

Mamaroneck, New York (Westchester County)

Projects in Progress

As of June 1, 1993, construction upgrading and expansion to a 20.6 MGD secondary activated sludge plant was completed. This project, costing \$105 million, represents the last facility to cease discharging primary effluent to Long Island Sound.

Specified dates of the Municipal Compliance Plan to attain secondary treatment levels have been met. The State Consent Order still requires SSES work which is ongoing.

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

Completed Project

A \$400,000 plant upgrade was completed recently. Equipment was added to modify the biological treatment units using an aerated mixed-media process.

Projects in Progress

This facility is operating under a State Consent Order (modified November 12, 1991). A treatment plant evaluation was conducted in order to determine the plant modifications necessary to meet secondary effluent limitations. The Order specifies compliance with final BOD limitations by September 1, 1992.

Future Projects

Several upgrading projects are planned to begin during December 1993, and they involve sanitary sewer and effluent manhole relining, the installation of a new chlorine disinfection system, and new sludge drying beds. In addition, the replacement of the influent manholes is planned in order to reduce infiltration. These projects are estimated to cost \$930,000.

Mount Loretto Homes, New York (Richmond County)

Project in Progress

At the present time, this septic system consists of three holding tanks servicing about 1,000 people. Construction plans call for hooking up to the New York City sewer system in the Oakwood Beach drainage basin; however, final dates have not been established.

Refer to the Oakwood Beach write-up for additional information.

New Rochelle, New York (Westchester County)

Projects in Progress

On December 12, 1986, NYS DEC imposed a sewer extension moratorium on the New Rochelle Sewer District; this ban is still in effect. This plant is operating at or above its permitted flow capacity. With anticipated development in the area, there is concern of insufficient plant capacity, as well as the ability to meet effluent requirements. A comprehensive study of flow capacity and I/I reduction is



ongoing. This work is expected to cost \$500,000.

Estimated to cost \$4 million, sludge dewatering and pumping improvements are 50% complete.

This facility is operating under a State Consent Order to accomplish collection system rehabilitation and eliminate two sewer overflows. The New Rochelle Sewer District; which is comprised of Larchmont, a small section of Mamaroneck, New Rochelle, and Pelham Manor; anticipates a cost of \$1 million for all construction phases.

#### Newtown Creek, New York (Kings County)

##### Projects in Progress

Ongoing reconstruction at the Manhattan pumping station, as well as installations (electric, HVAC, plumbing, etc.) and associated force main replacements, is estimated to cost \$15.547 million.

Construction of an electrical substation (\$12 million) is 75% complete. An operational start-up date is planned for April 1994.

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

##### Future Projects

Upgrading and expansion construction to incorporate a secondary treatment system utilizing step aeration with a reduced contact time has been postponed until September 1995. With a 12-year construction schedule, estimates of \$22 million were made for all design and construction phases. However, design work, facility planning and subsequent construction for interim upgrades are estimated at \$8.5 million. The interim upgrade work began during July 1993 and is scheduled for completion during March 1998.

During 1991, a total of 16 tide gates were to be replaced at a total cost of \$1.779 million, in addition to automatic sluice gate operators at a cost of \$1.248 million. However, all renovations have been postponed until fiscal year 1994.

The Manhattan pump station has a continuing agenda into 1994 with estimated costs of \$42.36 million. The Taaffe Place pump station is under construction (\$5.613 million).

Recommendations of the stabilization study will be im-

plemented during fiscal year 1994 at costs of nearly \$36 million.

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

##### Future Projects

This drainage basin has a State-imposed sewer hookup moratorium in effect until wastewater flows meet SPDES permit limitations. A study was recently completed in which capacity expansion is recommended to be increased to 0.5 MGD. Construction is planned to begin during June 1994 at an estimated cost of \$1 million.

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

##### Projects in Progress

This facility is operating under a State Consent Order (July 1, 1992) to address issues of capacity, odor, and air emissions. Refer to the Legal Activities section of this report for additional information.

Plant modifications are under way to address odor control problems. Reconstruction of the primary and final settling tanks are also ongoing; information regarding percent completeness, costs and operational start-up dates was not available.

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

##### Future Projects

Proposed collection system renovations during 1994 include tide gate replacements and installation of automatic sluice gate operators at estimated costs of \$3.097 million.

Expenditures of over \$41.6 million are planned which will affect all support treatment equipment. These installations, inspections and repairs will affect electrical, instrumentation and control systems, HVAC, and dock storage facilities.

#### Oakwood Beach, New York (Richmond County)

##### Completed Projects

Sludge dewatering facilities went on-line during June 1992; punch list items are being addressed. Final costs are not available.



### Projects in Progress

Construction of the West Branch Interceptor System is about 70% complete; costs were not available. The Richmond Avenue pumping station is under construction. The Hylan Boulevard Interceptor System is presently being installed.

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

### Future Projects

The planned Mason Avenue pump station will cost about \$2.345 million.

Various improvements and replacements (gratings, emergency battery system, screens) are slated with costs estimated at over \$2.9 million.

Engineering studies planned for 1994 include an energy conservation and instrumentation assessment, a stabilization study (\$518,000), and an SSES (\$2.608 million).

The installation of primary screens is proposed for December 1993, at a cost of over \$1.33 million.

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

### Completed Project

A Sewer System Evaluation Survey costing \$967,000 was completed this past year.

### Projects in Progress

This facility is operating under a State Consent Order (March 5, 1991) to complete the aforementioned survey, to institute a short-term plan to improve the existing trickling filters, and to upgrade and expand the plant capacity to 12.75 MGD. Construction is 10% complete and operational levels are expected to be attained by December 1994. Costs are estimated at \$6.7 million for adding extra units of treatment to all stages of the existing plant.

## Ossining, New York (Westchester County)

### Project in Progress

A new ash enclosure building is 10% complete and will cost approximately \$250,000.

### Future Project

Conversion to natural gas in lieu of fuel oil is planned for two heating boilers and two multiple hearth incinerators. A construction start is proposed for February 1994 and the project is expected to cost \$380,000.

### Owls Head, New York (Kings County)

#### Projects in Progress

At costs amounting to \$216 million, 95% of the construction upgrading is complete. The work includes digester facilities, engine generator, pump and powerhouse, an outfall to Upper New York Bay, disinfection facilities, waterfront facilities for the sludge barge berthing area, and primary facilities.

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

#### Future Projects

Anticipated to be operational during May 1995, aeration tanks, final settling tanks, landscaping and computer controls will accrue costs of \$426 million. Improvements to the engine generators are also planned.

### Oyster Bay Sewer District, New York (Nassau County)

#### Completed Project

A digester cover was replaced this past summer at a cost of over \$148,000.

#### Project in Progress

The gaseous chlorine system is presently being converted to a liquid chlorine disinfection facility.

#### Future Project

The proposed installation of standby generators at two pump stations is estimated to cost \$60,000.

### Palisades Interstate Park Commission - Bear Mountain State Park (Rockland County)

#### Completed Project

Reconstruction of the sanitary sewer lines in the Bear

Mountain and Harriman State Parks was completed this past April. The 4-month project cost over \$138,000.

Peekskill, New York (Westchester County)

Project in Progress

Variable frequency pump drives and an intercom/paging system are being installed at an estimated cost of \$82,000; this work is 40% complete.

Port Richmond, New York (Richmond County)

Projects in Progress

I/I work is ongoing with allocated funds of \$1.28 million.

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

Future Projects

Engineering studies are scheduled for 1994, including an energy conservation and instrumentation assessment and an SSES (\$2.313 million).

Modifications and improvements to the existing plant are slated for fiscal year 1994 (\$1.171 million) and include the replacement of degritter pumps and reconstruction of primary tanks. Tide gate reconstruction is planned for five tide gates at a cost of \$303,000. In addition, the installation of climber screens is proposed at a cost of \$675,000.

Red Hook, New York (Kings County)

Completed Projects

Sludge dewatering facilities were put on-line during June 1992. Final costs were not available.

Project in Progress

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

Future Projects

Plant modifications and additions are planned which will address electrical, HVAC, and plumbing at costs of \$14.875 million.



Planned collection system renovations include tide gate replacements (seven tide gates at a cost of \$281,000) and pump station upgrades (\$170,000). The Gowanus force main and flushing tunnel, as well as necessary dredging, will cost about \$4.816 million; scheduling has not yet been done.

As proposed by the Long Island Sound Study, a 1995 construction start-up is anticipated for BNR process modifications. Funding applications are being submitted under the Innovative and Alternative Program of the State Revolving Loan Program. It is estimated that \$2 million will be needed to finalize all retrofits.

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

##### Projects in Progress

Modifications to various treatment units are under way at a cost of \$2.321 million.

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

##### Future Projects

Plant modifications and improvements are planned for 1994, including reconstruction of the final settling tanks (\$1.145 million) and pump replacements (\$608,000).

At a cost of \$1.98 million, an SSES is planned. A stabilization study costing \$518,000 is proposed for 1994.

#### Rockland County Sewer District No. 1, New York (Rockland County)

##### Project in Progress

Design work has been completed and construction is 50% complete for the installation of additional piping to provide sufficient capacity during peak wet weather flow conditions. The \$15 million project also includes upgrading and expansion of 11 pumping stations.

#### Staten Island University Hospital, New York (Richmond County)

##### Future Projects

It is planned that this facility divert flows to the New York City DEP Oakwood Beach plant for treatment via the Hylan Boulevard Interceptor; dates and costs have not yet been finalized. Refer to the Oakwood Beach write-up for additional information.

At costs of less than \$10,000, improvements will be implemented to improve clarity of the effluent as well as to reduce final BOD discharges. A variable level aeration zone will be established in the existing tankage by using a self-compensating pump. The addition of a chemical feed system for metering of a coagulant aid to the clarifier is also planned.

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

Projects in Progress

This facility is operating under a State Consent Order (June 1990) to ensure secondary effluent limitations, complete the collection system renovations, and conduct a wasteload allocation study in Port Jefferson Harbor. The County is presently awaiting completion of the Long Island Sound Study so that final discussions with NYS DEC - Region 1 can address the Order.

A plant evaluation is under way to determine the possibility of increasing flow capacity while maintaining all permit limitations.

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

Projects in Progress

Design plans were completed (\$275,000) for the installation of two additional clarifiers. An RFP is being prepared (\$20,000) for sludge disposal options. In addition, in-house interceptor flow studies are being conducted in order to determine I/I reduction.

Phased construction renovations are 80% complete throughout the plant. An estimate of \$4.7 million was made for the work which began in January 1990. A major portion of this project deals with the stabilization of the outfall pipe to the Atlantic Ocean.

Future Project

Estimated at \$4 million, a 24-month agenda has been set for the installation of two final clarifiers with a planned operational date during the spring of 1996.

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

Project in Progress

In-house engineering staff are investigating equipment and operational changes in order to improve reliability.

Future Project

As a result of completed engineering studies, a \$1.6 million equipment renovation is planned. However, construction has been postponed pending recommendations of the Long Island Sound Study.

Suffolk County Sewer District #21, S.U.N.Y., New York (Suffolk County)

Project in Progress

This sewer district is currently operating under a State Consent Order (June 1990) to assure continued compliance and conduct a wasteload allocation study in Port Jefferson Harbor. The County is awaiting completion of the Long Island Sound Study so that final discussions with NYS DEC - Region 1 can address the Order.

Tallman Island, New York (Queens County)

Projects in Progress

A voluntary BNR pilot project is under way. Process modifications are planned in order to remove 30% to 50% of the nitrogen load by 1994. Costs are estimated at \$2 million.

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

Future Projects

Pump station construction (\$5 million), installation of sluice gates (two sluice gates at a cost of \$60,000) and force main (\$3.5 million) have been proposed.

Plant modifications planned for FY '94 will include several installations and primary screen reconstruction; total costs will amount to \$1.638 million.

Engineering studies planned to begin during 1994 will address energy conservation and instrumentation assessment



and stabilization (\$518,000).

26th Ward, New York (Kings County)

Projects in Progress

Construction is continuing on sludge dewatering facilities which have estimated costs of nearly \$202 million. This process went on-line during June 1992 and is 95% complete.

Collection system renovations include tide gate replacement (\$100,000) and installation of automatic sluice gate operators (\$500,000); this work, however, has been postponed indefinitely.

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

Future Project

Reconstruction of new aeration and final settling tanks is scheduled at a cost of \$4.958 million.

Wards Island, New York (New York County)

Completed Project

Sludge dewatering facilities that went on-line during January 1992 are 100% complete.

Projects in Progress

Engineering studies are under way which address plant expansion and an SSES; combined costs are \$2.35 million.

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

Future Projects

Collection system renovations are planned and include 20 tide gate replacements (\$1.538 million). Seven additional tide gate replacements are scheduled at an estimated cost of \$1.869 million.

An interim plant expansion to a capacity of 275 MGD is planned to begin during February 1995. The two year construction schedule will incur costs of about \$35 million. An ultimate capacity expansion to a flow of 330 to 350 MGD will follow the interim phase sometime in the next century.

During 1994, \$1.242 million in improvements and modifications to the existing treatment units are planned. Additionally planned are the installation of an emergency backup generator (\$7.888 million), and reconstruction of various units (\$1.612 million) are planned.

An engineering study to assess energy conservation measures and instrumentation upgrades is scheduled.

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

##### Completed Projects

Phases 1 and 2 of a combined sewer overflow and regulator rehabilitation project were completed during 1990 and 1991, respectively. Phase 1 included the installation of swirl concentrators and disinfection capabilities at the North Yonkers pump station. Phase 2 addressed collection system improvements. Phase 3 was completed during April 1993. The work involved improvements to three pump stations. Final costs amounted to \$2.6 million.

##### Projects in Progress

In order to identify and alleviate extraneous flows, a Sewer System Evaluation Survey (83% complete) is being conducted in several of the individual municipalities comprising the Yonkers service area. Completion, at a cost of \$15 million, is expected by May 1994. This SSES is being conducted as part of the Stipulation of Settlement signed by ISC, NYS DEC and Westchester County. This settlement addresses the water quality issues raised in a September 1989 adjudicatory hearing.

As part of the Interim Decision issued by the NYS DEC Administrative Law Judge in the aforementioned adjudicatory hearing, an odor study (65% complete) is being conducted. An interim odor report was submitted to NYS DEC - Region 3 during January 1992; the final report is contingent upon increased flows to the plant.

A diesel engine drive process air blower is being replaced by an electrical unit. The project is about 90% complete and has an estimated cost of \$2.231 million.

##### Future Projects

Coarse air diffusers in the aeration process will be replaced by fine air diffusers at an estimated cost of \$3.5 million. The 18-month construction schedule is proposed to start during February 1994.

Phases 4 and 5 of Yonkers' CSO abatement program will begin during January 1994. The two year project will address the installation of additional swirl concentrators and disinfection facilities. Costs are estimated at \$10 million.



## EFFLUENT AND AMBIENT WATER QUALITY MONITORING

During this past year, the Commission's monitoring programs of the District's effluents and ambient waters were maintained, but continued at a considerably reduced level due to budget constraints and a reduced staff. The Commission's laboratory is equipped to conduct a full range of tests. ISC's laboratory personnel performed analyses on the samplings and inspections conducted by field personnel at municipal and private wastewater treatment facilities, as well as for samples from an intensive survey in Long Island Sound.

For the third consecutive year, the Commission's research vessel, the R/V Natale Colosi, was used for monitoring Western Long Island Sound and the Upper East River in support of the Long Island Sound Study. The sampling was performed to document hypoxic (low dissolved oxygen) conditions and was conducted from late June through mid-September in cooperation with several other agencies.

During the course of the year, ISC's field inspectors conducted investigations in response to citizen complaints of water pollution. ISC worked with the appropriate agencies to resolve the problems in the most expeditious manner.

ISC's laboratory is certified by New York State and New Jersey and continues to participate in the US EPA Water Pollution Laboratory Evaluation Program and Water Supply Microbiology Performance Evaluation Study, as well as the New York State Department of Health Non-Potable Water Bacteriology Proficiency Test. The ISC laboratory also conforms with all recommended procedures of the US Food and Drug Administration's National Shellfish Sanitation Program.

Investigations of private and municipal facilities involve a six hour period of sampling and an inspection of processes, equipment, and plant records; those of industrial facilities generally involve a 24-hour period or a full day's production, if less than 24 hours. The data generated from these investigations are used to determine compliance with ISC's Water Quality Regulations and with each facility's N/SPDES discharge permit.

During November 1993, the Commission entered into an agreement with The College of Staten Island whereby the ISC will relocate its laboratory to the College's new campus located in the Willowbrook section of Staten Island. In addition to ISC's regular schedule of testing, the Commission and the College are also planning to utilize the modern laboratory facilities for collaborative efforts leading to deeper research into the causes of water and air pollution as part of an overall program that will benefit the environment throughout the tri-state region.

## SPECIAL INTENSIVE SURVEY

### 1993 Ambient Water Quality Monitoring in Long Island Sound to Document Dissolved Oxygen Conditions

In order to address a continuing need for weekly water quality data in Long Island Sound, the US EPA - Region II once again requested that the Commission conduct an intensive ambient water quality sampling survey in support of the Long Island Sound Study. To that end, the ISC participated in a cooperative sampling effort with other governmental agencies during the summer of 1993. The ISC had conducted similar surveys in Long Island Sound during the previous two summers.

Using the ISC research vessel, the R/V Natale Colosi, four parameters -- temperature, salinity, dissolved oxygen and chlorophyll a -- were sampled at 18 stations weekly during the 1993 summer season. The sampling logistics were determined at a 1991 meeting of the Long Island Sound Study Monitoring Work Group of which ISC is a member. During that meeting, the spatial and temporal coverage of the sampling area was coordinated among the study participants. This summer, as during the past two summers, CT DEP and NYC DEP also conducted sampling programs.

The data collected by ISC helped to fill in existing monitoring gaps and provided a consistent weekly data base for Western Long Island Sound and the Upper East River.

All sampling, sample preservation and analyses were done according to procedures accepted by the US EPA. Top (one meter below the surface), mid-depth, and bottom (one meter above the bottom) samples for temperature, salinity and dissolved oxygen were taken at all stations on all sampling runs. For stations greater than 15 meters deep, two additional samples were taken -- one spaced equidistantly between the top and mid-depth samples and one spaced equidistantly between the bottom and mid-depth samples -- for a total of five samples per station. Top samples for chlorophyll a were taken at all stations on every other run.

A map and listing of the station locations and descriptions are on the following pages. A total of 12 weekly sampling runs were conducted from late June 1993 through mid-September 1993. Temperature, salinity and dissolved oxygen were determined in situ using portable instrumentation. Samples for chlorophyll a were collected from one meter below the surface and were properly stored and preserved for analysis at the ISC laboratory. The results of all analyses were summarized and were forwarded weekly to US EPA - Region II's Long Island Sound office and to the NYS DEC's Division of Marine Resources.

In the area sampled by the Commission, dissolved oxygen con-



INTERSTATE SANITATION COMMISSION

1993 LONG ISLAND SOUND STUDY SAMPLING STATIONS

STATION	WATER COLUMN DEPTH (meters)	LOCATION						DESCRIPTION
		LATITUDE NORTH			LONGITUDE WEST			
		D	M	S	D	M	S	
A1	26	40	48	12	73	49	36	East of Whitestone Bridge
A2M	35	40	48	06	73	47	00	East of Throgs Neck Bridge
A3	25	40	50	30	73	45	18	Hewlett Point South of "29" Fl G 4 Sec
A4	35	40	52	18	73	44	06	Sands Point East of "25" Fl G 2.5 Sec
A5	13	40	53	54	73	41	12	2.6 nm East of Execution Lighthouse
B1S	15	40	56	42	73	40	00	Porgy Shoal South of R "40" Fl G 4 Sec
B2	20	40	56	06	73	39	12	Matinecock Point 1.6 nm North of Gong "21" Fl G 4 Sec
B3M	19	40	55	12	73	38	42	Matinecock Point 0.7 nm North of Gong "21" Fl G 4 Sec
B4	15	40	54	24	73	38	06	Matinecock Point South of Gong "21" Fl G 4 Sec
C1	19	40	57	18	73	34	48	Oak Neck Point 1.8 nm North of C "19"
C2	35	40	59	06	73	30	00	Lloyd Point 1.5 nm North of Bell "15" Fl 4 Sec
DI1	10	40	53	33	73	46	24	Davids Island North of "10A" Nun
DI2	6	40	53	40	73	46	00	Davids Island East of R "4" Nun
H-A3	3	40	55	24	73	43	12	Delancy Point South of C "1"
H-B	12	40	54	48	73	42	54	0.7 nm Southeast of Daymarker Fl R 4 Sec
H-C	8	40	51	54	73	40	30	Hempstead Harbor East of R "6" Bell
H-C1	11	40	53	12	73	41	42	Hempstead Harbor 2 nm East of Sands Point
H-D	7	40	50	42	73	39	36	Hempstead Harbor East of C "9"



ditions were better than those of 1991 and similar to 1992 observations. Dissolved oxygen concentrations of below 3 mg/l were seldom observed in the deep bottom waters during the 1993 survey. Compared to 1992, the meteorological conditions in 1993 showed higher than normal temperatures and infrequent storms. During the extent of the survey, 39 days of ambient temperatures at or above 90 F were recorded at Central Park, New York. In comparison, only 7 days reached 90 F or above during 1992, whereas in 1991, a total of 33 days were at or above 90 F with 21 days reaching the 90 F mark or above before July 31, 1991. Nonetheless, abnormally windy conditions tended to aerate surface waters throughout the 1993 summer season. Sampling at stations DI-1 and DI-2 off David's Island, which were added at the request of NYS DEC in 1992, was continued during this survey.

## ENVIRONMENTAL EXPOSITIONS, FESTIVALS AND SPONSORSHIPS

### Second Annual Lighthouse Festival

At the site of Jeffrey's Hook Lighthouse in Fort Washington Park in Upper Manhattan, the ISC staff maintained an exhibit and information booth at the Second Annual Lighthouse Festival on October 2, 1993. With more than 2,000 attendees, water pollution control and abatement programs were discussed with the public, as well as with festival participants from state and federal agencies, environmental groups and citizen organizations.

Sponsored by the City of New York's Parks and Recreation Department and the Manhattan Urban Park Rangers, the Festival celebrates the saving of the Lighthouse (originally built in 1899) by public protest at a time when it was threatened with destruction. In 1923, the navigational aid was moved from Sandy Hook, New Jersey, to the east bank of the Hudson River where it is now overshadowed by the George Washington Bridge.

### Tenth Annual New Jersey Environmental Exposition

The Commission participated as an exhibitor at the Tenth Annual New Jersey Environmental Exposition on October 19-20, 1993, at the Garden State Exhibit Center in Somerset, New Jersey. The exposition is a highly publicized event that attracts a broad cross section of governmental and community leaders, environmentalists, and representatives of private industry from the mid-Atlantic region. The exposition gave the ISC the opportunity to inform attendees about the Commission's history and activities and to disseminate literature. Additionally, the ISC joined the New Jersey Environmental Internship Program wherein ISC may be able to obtain students in the environmental field to supplement its regular staff.

### Our World Underwater

The ISC has enjoyed a long-standing relationship with Our World Underwater, a non-profit corporation focusing on educational opportunities for young people going into various fields of marine science, such as marine biology and oceanography. Its programs include a Scholarship Society to support a gifted student for a year to study, experience and interact with a wide range of professionals involved in and related to the field of scuba diving.

This year, the Commission was pleased to become the first and sole governmental sponsor of the Scholarship program. The 1993 recipient learned about ISC's history and activities with an emphasis on the Metropolitan Area's water pollution problems and solutions. A tour of the laboratory and a cruise aboard the re-

search vessel, R/V Natale Colosi, made for a busy agenda. The recipient took an active role in assisting staff collect and log water quality data.

Since the Commission began its relationship with Our World Underwater, all scholarship recipients have enjoyed a "hands on" experience. Since none of the recipients hosted by ISC were from this region, their experience was compounded by this being their first visit to the northeast, as well as by them also being afforded the opportunity to view this urban environment from the water.



## NATIONAL ESTUARY PROGRAM

Established in 1984, the National Estuary Program (NEP) provides assistance to estuaries of national significance that are threatened by pollution, development or overuse. The NEP provides federal assistance to develop a Comprehensive Conservation and Management Plan (CCMP) for designated estuaries. Presently, 21 estuaries located along the Atlantic, Pacific and Gulf of Mexico coastlines, as well as in Puerto Rico, are developing or implementing CCMPs. Within the Interstate Sanitation District, Long Island Sound and the New York-New Jersey Harbor Estuary have been receiving funding under this program since 1985 and 1988, respectively. The overall coordination for the Long Island Sound Study is being carried out by the US EPA - Regions I and II. The New York-New Jersey Harbor Estuary Program is being coordinated by the US EPA-Region II.

The Commission continued to actively participate as a member of the Management Committees and various work groups for the Long Island Sound Study (LISS), the New York-New Jersey Harbor Estuary Program (HEP) and the related New York Bight Restoration Plan (NYBRP).

In October 1993, the draft CCMP for the LISS was issued. The Plan details priority areas of concern: public involvement/education, low dissolved oxygen, toxics, pathogens, floatables, living marine resources and land use/development. It will be essential to determine the effectiveness of management actions and programs implemented. For future years, it will be necessary to provide pertinent information that can be used to evaluate and, if necessary, refocus management decisions.

The final CCMP completion is anticipated for the end of December 1993. At that time, the CCMP will be sent for approval to the governors of Connecticut and New York and the US EPA Administrators of Regions I and II, prior to being submitted to US EPA Headquarters for approval.

As a member of the Management Committees and various work groups for the three aforementioned studies, ISC is aware of the data gaps/deficiencies that exist both for ambient waters and for point and nonpoint sources. Besides coordinating with these programs, which also have representation from ISC's three member states, the Commission will continue to coordinate its sampling activities and schedules with the environmental departments of its member states in order that the needs of the region are best met with the limited resources available to all agencies.

One of the unfunded projects that is part of the HEP Pathogens Work Plan is a project relating to the uniformity (or non-uniformity) of current closure policies for bathing beaches. ISC

undertook the project and organized a meeting that took place on November 17, 1993, in Manhattan. The meeting was attended by representatives of State, county and municipal environmental and health agencies, as well as by public awareness groups and the public. Discussions and presentations addressed bathing beach criteria, and procedures for assessing water quality and for closing beaches. Information on beach closures during the past several bathing seasons around the region was also reported. General discussions dealt with State and federal regulations, a national indicator organism, national beach monitoring and closure policies, and whether there is a need for regional uniformity/compatibility. A report summarizing the meeting was in preparation at the time of this writing.

The Commission is conducting a project (and supplying the results to the HEP) to address the amount of control needed for CSOs, stormwater and nonpoint sources in order to get beaches open for swimming. Details can be found in the Opening Waters for Swimming and Shellfishing section of this report.

At the time of this writing, the Commission was putting together a sampling study whereby the ISC would coordinate and oversee the data collection for the Harbor Eutrophication Model that will be used for the HEP. The project consists of three parts -- a "reactivity" study, a "routine monitoring" study, and a "nutrient flux" study. The ISC and NYC DEP staffs will be taking all of the samples for the "reactivity" and "routine monitoring" portions of the study. A contractor (to be hired by ISC) will analyze the aforementioned samples and also collect and analyze samples for the "nutrient flux" portion of the project. The work is expected to begin in early 1994 and be completed in the fall of 1994.

## COMBINED SEWER OVERFLOWS

Subsequent to the Commission's 1988 CSO inventory report, the 1989 region-wide CSO Planning Conference, and technical meetings with State environmental departments and US EPA, the Commission continues to investigate which pollutants are amenable to control at CSOs and contribute to strategies within the region for CSO abatement. Without violating the CSO strategies of its member States and the US EPA's national CSO strategy, the Commission's aim is to insure compatible region-wide CSO requirements.

Throughout the past year, the Commission continued to inspect CSOs during dry weather in an effort to identify and eliminate all dry weather discharges in the Interstate Sanitation District. When dry weather discharges are discovered, the incident is reported to the appropriate State environmental department for their action. The Commission works with that department to determine the most expeditious manner to alleviate the violation. During the 12-month period ending September 30, 1993, ISC's field staff inspected a total of 71 outfalls located in several drainage basins in both New York and New Jersey.



## OPENING WATERS FOR SWIMMING AND SHELLFISHING

### Swimming

Opening presently closed areas for swimming continues to be a high ISC priority. The results of ISC's 1988 and 1990 Hudson River coliform surveys showed that further remedial actions must take place before the waters can reach the quality required for swimming. The Commission continues to emphasize the need for CSO, stormwater and nonpoint runoff control to allow swimming in those areas of the District, such as the Hudson River and Raritan Bay, that are so classified. ISC will concentrate on ensuring that the ongoing National Estuary Studies in this region are integrated and the problems prioritized.

To address the CSO, stormwater and nonpoint runoff problems related to opening areas in its District for swimming, the Commission is and will be addressing two major components:

- a. determining the geographic area that control from the various sources is necessary and the coliform reductions required from discharges in order for the waters to meet swimming criteria, and
- b. coordinating the CSO remediation efforts among the appropriate State and federal agencies and the affected municipalities and/or sewage authorities in order to achieve the desired results in the shortest possible period of time.

The first component is nearing completion and involves the use of the most up-to-date version of the steady state mathematical water quality model developed for the New York-New Jersey Harbor area, which includes the surrounding waters. Based on the model results, ISC is developing different scenarios to determine the geographic area and the extent of coliform reductions necessary to meet swimming criteria. Lesser coliform control will most likely increase the geographic area that must be controlled. It will be necessary to balance the degree of control versus the geographic area to be controlled in order to determine the best plan for remediation.

Once a remediation plan is determined, it will be necessary to coordinate the corrective actions that the affected municipalities and/or sewage authorities must undertake in order to obtain the desired results -- swimming in the target areas -- in the shortest possible period of time at the least cost.

The Commission recognizes that a time-variable model is presently under development and will be able to predict the effects of individual storms -- something that the present steady

state model cannot do. When the new model becomes available, some additional model runs will have to be performed to determine whether the conclusions reached using the steady state model -- which will yield the most favorable results -- will have to be adjusted. Throughout this project, ISC is continually seeking input from the involved agencies.

The results of the work currently being done by the Commission will be supplied to the Harbor Estuary Program. The HEP did not have to presently allocate any of its very limited funds for this modeling work, but was able to defer funding until the time when work with the time variable model will have to be performed. As a member of the HEP Pathogens Work Group (PWG), ISC has been and will continue to take an active role in developing the regional priorities and strategies for using the time-variable model that is under development.

### Shellfishing

It is an ISC goal to keep open the waters in the District that are used for shellfishing and to get presently closed areas open for shellfishing. To that end, the Commission will continue to work with the States' environmental and/or health departments to determine the areas that must be sampled to remain open or to be opened. The Commission will continue to coordinate with its three member States and commit available resources to sampling and analyses for this purpose. The areas include those used (or to be used) for direct harvesting, depuration and transplant (re-lay).

### III. AIR POLLUTION

#### GENERAL

The Commission's interstate air pollution program has been conducted since 1962. Over the years, the program has focused on investigations, applied research, and advocating regional viewpoints on environmental issues. The ISC continues to receive air pollution complaints. This year, as in the past, the complaints came almost exclusively from Staten Island. For the 12-month period ending September 30, 1993, a total of 160 air pollution complaints were received, representing an increase of 11.1% over that of the previous 12-month period.

For the sixth consecutive year, the Commission participated in the regional Ozone Health Message System that is activated during the summer months. Health advisories were issued within the region, primarily by the New Jersey Department of Environmental Protection and Energy. The public is informed of the health advisories through communications from wire services and radio and television stations; ISC also sent the advisories that it received to the environmental and health agencies of all member States.

Pollutant values and meteorological conditions did not warrant activation of the High Air Pollution Alert and Warning System in the New Jersey-New York-Connecticut Control Region which ISC has coordinated since 1970.



## AIR POLLUTION COMPLAINTS

Staten Island, especially the western portion in the vicinity of the New York-New Jersey border, generates more citizens' complaints of disagreeable odors and airborne pollutants than any other area in the Commission's jurisdiction.

From 1982 until June 1989, the Commission operated a field office on Staten Island. The field office received hundreds of odor complaints annually and the ISC staff assigned to that office responded by investigating the complaints and contacting other agencies, as needed. In 1989, the Staten Island field office was closed because of severe budget cuts, and the Commission was forced to lay off its entire air pollution field staff; those staff positions, unfortunately, still remain vacant. ISC's 24-hour-a-day, 7-day-a-week answering service has been maintained and complainants are contacted during regular office hours and, when warranted, Commission personnel are contacted during non-office hours. When available, ISC personnel are dispatched to investigate ongoing complaints. The appropriate enforcement agencies and health departments are contacted to perform follow-up.

For the 12-month period ending September 30, 1993, the Commission received a total of 160 complaints, 157 of which were from Staten Island. This represents an increase of 11.1% compared to the previous 12-month period. The telephone calls received by ISC from Staten Island citizens clearly illustrated their frustrations and the necessity of reactivating ISC's air pollution response staff; this can only happen by the restoration of funding to the Commission.

As shown in the accompanying tables, the complaints were categorized by: (1) community from which complaints were made, (2) type of odor, (3) time of day and (4) day of the week.

Twenty-eight Staten Island communities were the source of at least one complaint to the Commission during the period of October 1992 through September 1993. More odor complaints were reported from Tottenville than from any other Staten Island community -- 21 complaints representing 13.4% of the total number of complaints reported. Tottenville, which ranked second or third in each of the three previous years, is located in the southwestern portion of Staten Island.

Based on the descriptions reported by the citizens, odors were classified into nine categories as shown in the table. The "garbage", "cat urine" and "chemical" categories were most frequently reported -- together representing 55.4% of the total.

Complaints were tabulated according to three time intervals

DISTRIBUTION OF AIR POLLUTION COMPLAINTS BY COMMUNITY ON  
STATEN ISLAND FROM OCTOBER 1992 TO SEPTEMBER 1993

COMMUNITY	COMPLAINTS	
	NUMBER	% OF TOTAL
Tottenville	21	13.4
New Springville	17	10.8
Great Kills	16	10.2
Eltingville	15	9.6
Travis	11	7.0
Arden Heights	10	6.4
New Dorp	9	5.7
Mariner's Harbor	8	5.1
Annadale	7	4.5
Huguenot	5	3.2
Richmond/Richmondtown	5	3.2
Bulls Head	3	1.9
Castleton Corners	3	1.9
Port Richmond	3	1.9
Sunnyside	3	1.9
Westerleigh	3	1.9
All others *	18	11.4
TOTAL **	157	100.0

\* Represents 12 communities from which less than three complaints were reported per community.

\*\* Additionally, two complaints originated from Brooklyn and one from Manhattan, totaling 160.

DISTRIBUTION OF AIR POLLUTION COMPLAINTS BY TYPE OF ODOR  
FROM STATEN ISLAND COMMUNITIES  
FROM OCTOBER 1992 TO SEPTEMBER 1993

TYPE OF ODOR	COMPLAINTS	
	NUMBER	% OF TOTAL
Garbage	32	20.4
Cat Urine/Ammonia	31	19.7
Chemical	24	15.3
Oil/Gasoline	15	9.6
Sewage	13	8.3
Natural Gas/Gassy	6	3.8
Sulfur/Eggy	5	3.2
Burning Rubber/Plastic	4	2.5
Dead Fish/Fishy	4	2.5
Others*	23	14.7
TOTAL	157	100.0

\* Represents odors that could not be more specifically identified by the complainants.



DISTRIBUTION OF AIR POLLUTION COMPLAINTS BY TIME OF DAY  
 FROM STATEN ISLAND COMMUNITIES  
 FROM OCTOBER 1992 TO SEPTEMBER 1993

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 1992	3	6	5	14	8.9
November 1992	3	3	4	10	6.4
December 1992	1	3	4	8	5.1
January 1993	1	4	1	6	3.8
February 1993	1	0	6	7	4.5
March 1993	2	3	4	9	5.7
April 1993	1	4	0	5	3.2
May 1993	4	10	9	23	14.7
June 1993	9	10	9	28	17.8
July 1993	2	5	10	17	10.8
August 1993	9	3	8	20	12.7
September 1993	0	3	7	10	6.4
TOTAL	36	54	67	157	
% OF TOTAL	22.9	34.4	42.7		100.0

\* Includes Weekends and Holidays

DISTRIBUTION OF AIR POLLUTION COMPLAINTS BY DAY OF WEEK  
FROM STATEN ISLAND COMMUNITIES  
FROM OCTOBER 1992 TO SEPTEMBER 1993

MONTH	NUMBER OF COMPLAINTS						
	Day of Complaints*						
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
October 1992	1	2	5	2	2	1	1
November 1992	2	1	2	4	1	0	0
December 1992	1	1	2	1	1	0	2
January 1993	0	0	3	1	1	1	0
February 1993	1	0	2	2	1	0	1
March 1993	1	2	2	2	1	1	0
April 1993	2	0	0	0	1	0	2
May 1993	3	1	5	8	0	6	0
June 1993	3	6	6	2	6	3	2
July 1993	1	0	3	6	3	3	1
August 1993	5	6	3	2	0	3	1
September 1993	1	1	5	0	2	0	1
TOTAL	21	20	38	30	19	18	11
% OF TOTAL	13.4	12.7	24.2	19.1	12.1	11.5	7.0

\* Includes Holidays

-- midnight to 8:00 A.M., 8:00 A.M. to 4:00 P.M., and 4:00 P.M. to midnight -- in order to determine when most of the complaints are made. The table presenting complaints as a function of the time of day shows that 42.7% were reported between 4:00 P.M. and midnight, and 34.4% between 8:00 A.M. and 4:00 P.M. This pattern is consistent with previous years. The majority of complaints have been registered between 4:00 P.M. and midnight every year since 1984.

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 38 calls (24% of the total) on Wednesday to a low of 11 calls (7.0% of the total) on Sunday. These daily frequencies coincide with patterns of previous years and indicate that most complaints are made on mid-week days and the least on Sunday. The previous table also shows that there is a seasonal variation in the number of complaints logged per month, with the majority occurring during the summer months.



## OZONE HEALTH MESSAGE SYSTEM

For the sixth consecutive year, the Ozone Health Message System was activated to alert the public of unhealthy levels of ozone existing in the atmosphere of the Metropolitan Region. The system was developed as a cooperative effort by environmental and health representatives from the Commission; the States of New Jersey, New York and Connecticut; New York City and the US EPA. It serves as a central source of precautionary advice on ozone to the Region during the warm weather months, from May to September, when higher concentrations of ozone are experienced.

During 1993, even though the Commission's participation was somewhat reduced due to budgetary constraints, ISC took an active role in alerting the public to unhealthy conditions. On a number of occasions during the summer of 1993, when elevated levels of ozone existed in parts of the Metropolitan Area, the ISC relayed "health advisory" messages to the appropriate government environmental and health agencies. Independently, the individual States issue their own health messages that identify specific counties where ozone levels are a special health threat. During 1993, it was not necessary for ISC to issue a region-wide Ozone Health Message.

Since ozone irritates the respiratory system and may cause decreased lung function, this pollutant especially affects the elderly and those with pre-existing lung disease. Healthy adults and children may feel the effects during high ozone days. Adverse effects may include: shortness of breath, chest pain, throat and eye irritation, and wheezing. Whenever ozone reaches unhealthy levels, the public is advised against strenuous outdoor activities and physical exertion such as jogging, ball playing, and running.

## REGIONAL AIR POLLUTION WARNING SYSTEM

The Interstate Sanitation Commission is the coordinator of the New Jersey-New York-Connecticut Air Quality Control Region's High Air Pollution Alert and Warning System. Based on high pollutant concentrations and/or stagnation advisory reports, the Commission may activate this system. The pollutant levels and stagnation advisory reports did not warrant activation of the system during this past year.

#### IV. LEGAL ACTIVITIES

In 1993, the Commission succeeded in obtaining a commitment for substantial fines in a multi-party federal court case in New Jersey District Court. In a second multi-party federal court case, which also has a New Jersey situs, the ISC worked in tandem with the New Jersey Department of Environmental Protection and Energy (DEPE) and secured a Decree which obligates the City of New York to implement more stringent water cleanliness procedures at the Fresh Kills Landfill in Staten Island. The Commission continued its participation in an Administrative Hearing concerning New York State Pollutant Discharge Elimination System (SPDES) permits issued to the City of New York's wastewater treatment plants.

With regard to new initiatives, the Commission has kept abreast of developments in a federal court case involving the City of New York's North River Water Pollution Control Plant (WPCP). The plaintiffs initiating that matter prevailed on a summary judgment motion brought by the City regarding the issue of liability. The Court found that the Clean Water Act imposes strict liability where flow exceedences are found. The Commission has watched and advised in this matter with a view toward an appropriate role as a participant, if warranted.

ISC also lent technical expertise by filing an affidavit in an Article 78 proceeding involving the Coney Island WPCP. Similarly, the Commission has joined with New York Lawyers for the Public Interest (NYLPI), a clearinghouse, to assist Concerned Citizens of Greenpoint, to bring the resources of a major law firm to bear on the water quality problems at the Newtown Creek WPCP. A solicitation for pro bono support is under way. Finally, the ISC submitted comments on proposed new regulations in New York State regarding Uniform Hearing Procedures and Solid Waste -- in the latter context, commenting specifically on the relationship of solid waste disposal and leachate at the Fresh Kills Landfill.

As part of the outreach program, the ISC successfully attracted five area law students to offer pro bono services as a supplement to the Commission's legal staff.

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

This suit (Township of Woodbridge v. City of New York, Civil No. 79-1060) relates to the waterborne debris that enters the District's waters as a result of the garbage unloading operations at the Fresh Kills Landfill located on the Arthur Kill shoreline in the western portion of Staten Island, New York.



In 1986, the ISC intervened in an action in New Jersey Federal District Court which was initiated in 1979 by the Township of Woodbridge, New Jersey. Approximately 13 Court Orders were issued in the intervening years prior to ISC's cross-motion for contempt in September 1987. After investigations were conducted by Commission field inspectors, it was determined that, in spite of the Orders issued and the steps taken by the City, the problem of debris from the landfill operations entering adjacent waterways persisted in contravention of the ISC's Water Quality Regulations. ISC sought and succeeded in obtaining a Contempt Citation. In order to find a solution to the Region's waterborne garbage problems, the parties to the suit entered into a Consent Order. That Consent Order required the City of New York to implement water cleanliness procedures; the installation of interim remedial equipment, including the superbloom; and the hiring of an independent monitor. The Order also provided for an Independent Consultant to evaluate the effectiveness of the interim equipment and procedures, and recommendations for alternative long-term measures by January 1, 1990.

The parties include ISC and co-plaintiffs Township of Woodbridge, State of New Jersey, Save Our Shores and Groups Against Garbage (both citizen groups); and the defendant, the City of New York.

An evidentiary hearing was held in 1989 before a Special Master who found that while debris continued to enter the waterway, the parties could wait for the January 1, 1990 consultant's report.

The Independent Consultant's reports during 1990 recommended containerization and a single-barge enclosed unloading system as alternatives. The City concluded that of the final alternatives reviewed, the single-barge enclosed unloading facility presented the most effective and practical method to comply with the Consent Order and proposed to implement it.

The ISC submitted a revised Consent Order to the parties in January 1991. The revisions, among other things, involved the retention of the Independent Monitor for as long as the current system will be utilized, an accelerated schedule for implementation of the single-barge enclosed unloader, an evaluation of the need for a second unloader within a reasonable time, and the continuation of the stipulated penalty provisions of the Consent Decree.

During 1992, the Commission's request for assurances that there be monies set aside and dedicated solely to the design and construction of the single-barge enclosed unloading system were met. With only a minor adjustment in compliance dates, a draft Consent Decree was accepted by the parties in the spring of 1993.

A Consent Decree was filed in the United States District Court on June 15, 1993, and a fully executed copy was received by the Commission on June 28, 1993. By June, the City had issued the requisite Request for Proposals, selected from the proposals and selected a design consultant, developed a draft scope of work and draft contract for the design of the facility, and conducted the required Procurement Policy Board public hearing on the selection process. By the end of July, the City had completed negotiations and executed a contract for the provision of design engineering and directed the commencement of work.

As of December 1, 1993, the City's design engineer had performed several tasks, including: defined the scope of the permits that had to be obtained and developed a schedule for regulatory compliance, commenced the collection of geographical data through the use of a soil boring program, and started the development of a facility design program. Finally, the City requested that the June 1993 Consent Decree be modified to include dates already agreed upon. Those dates are December 30, 1994, complete final design for a single-barge enclosed unloading facility; March 31, 1998, complete construction of a single-barge enclosed unloading facility; and September 30, 1998, establish a protocol for operation and maintenance of the facility. As of the end of 1993, the City was in compliance with the terms of the Consent Order and up-to-date with the schedule.

#### LITIGATION AGAINST HUDSON COUNTY MUNICIPALITIES

In U.S., ISC v. Hoboken, et. al, Civil No. 79-2030, ISC sued in Federal District Court in New Jersey to enforce ISC's Water Quality Regulations at treatment plants located in five Hudson County, New Jersey, municipalities. ISC intervened in the underlying Clean Water Act enforcement action in 1986. The Commission sued to enforce its own Water Quality Regulations which set effluent limits for certain pollutants, such as BOD, TSS and fecal coliform bacteria. ISC sought a ruling that the defendants were liable under the Clean Water Act for exceeding discharge limits imposed by the US EPA and NJ DEPE acting under federal authority in the form of a National Pollutant Discharge Elimination System (NPDES) permit.

In accordance with the Clean Water Act, the Commission's regulatory standards are set forth in the NPDES permits issued by the State of New Jersey as a designated permit authority. The inclusion of ISC's regulations in such permits make the Commission's standards enforceable NPDES restrictions and a violation of the Clean Water Act. In 1987, the court granted plaintiffs' motions for partial summary judgment on the issue of liability against defendants Bayonne, West New York, and North Bergen. The Judge held that the NPDES permits did not extend the municipalities' deadline for abiding by interim standards rather than sec-



ondary treatment limits. After lengthy negotiations with the plaintiffs, all of the defendants have signed Consent Orders.

The parties involved are the US EPA and ISC, co-plaintiffs, and the following major defendants: the Hudson County Utilities Authority, Guttenberg, Weehawken, Union City, and the State of New Jersey, which was a necessary named defendant pursuant to the Clean Water Act.

### Hoboken

The Hoboken-Union City-Weehawken Sewage Authority (HUCWSA) has failed to comply with any of the milestones to achieve permit limits set out in the 1990 Consent Decree. Moreover, they have neglected to keep the plaintiffs apprised of events. Liquid train facilities (secondary tanks for transport of sewage), which were to have been operable by July 8, 1992, are now projected to be operable by December 20, 1993.

The completion of all construction, which was to have taken place by December 8, 1992, is now delayed until January 1994. Finally, while the Authority was to have achieved all secondary and final permit limits for TSS and BOD by January 8, 1993, they have not done so for any month of 1993.

During March 1993, an escrow agreement executed by the United States Attorney and ISC resulted in \$500,000 being deposited in a Penalty Escrow Account by the HUCWSA.

Although HUCWSA had sought relief under the Force Majeure provisions of the Consent Decree, citing a trickling filter collapse, the Commission found that the collapse did not constitute a Force Majeure event. The Commission cited the Authority's faulty operation, the abnormal height of the filters, the method of installation, and the manner in which media was produced as reasons to deny the request.

Following informal negotiations in June and July, pursuant to the Consent Decree, agreement was reached on several items. First, given the staleness of the Consent Decree, an amended Decree was necessary to acknowledge the new projected dates for achieving some milestones. Second, specified dollar amounts to settle penalty claims that exceeded \$5 million through October 25, 1993, had to be acknowledged by the Authority. A draft amended Consent Decree was transmitted to the plaintiffs by ISC during October and a proposed Settlement Agreement was transmitted by the Commission in November. The Authority has agreed to release \$500,000 as an initial penalty payment immediately upon the signing of the Settlement Agreement, and has given their attorney settlement authority of \$2.3 million for all civil penalty claims.



## NEW YORK CITY SEWAGE TREATMENT PLANT PERMIT HEARINGS

The ISC initiated a suit in State Supreme Court in Queens County, New York, in November 1988 (ISC v. Jorling), over the NYS DEC - Region 2's failure to hold a hearing prior to issuing SPDES permits for wastewater discharges from 14 sewage treatment plants operated by the City of New York Department of Environmental Protection (NYC DEP). In a Judgment issued in April 1989, the Court held that the NYS DEC had acted arbitrarily and capriciously in not holding a hearing and ordered that an adjudicatory hearing be held. This proceeding is the hearing resulting from that Judgment.

The parties involved are the ISC and co-petitioners Natural Resources Defense Council (NRDC), Hudson River Fishermen's Association (HRFA), Sierra Club and the Environmental Defense Fund (EDF), as well as the NYS DEC and the NYC DEP.

Of the four issues (toxic effluent standards, industrial pretreatment, untreated discharges and plant capacity) certified in the Administrative Law Judge's (ALJ) 1989 preliminary ruling, two (toxic effluent standards and industrial pretreatment) had reached resolutions by 1991. Negotiations continued on the remaining issues. Nutrient removal became a fifth issue joined for adjudication following an appeal of its exclusion by the Administrative Law Judge (ALJ). On January 31, 1991, in the NYS DEC Commissioner's interim decision, the Commissioner decided that nitrogen and nutrient removal were proper issues for adjudication and overruled the ALJ's decision.

Although the issues of whole effluent toxicity, nutrient removal and plant capacity are as yet unresolved, the parties are well on their way to a partial settlement of CSO abatement issues. In January 1993, the ALJ ruled on the issue of untreated discharges as reflected in the June 1992 Consent Order entered into by NYS DEC and NYC DEP. The ALJ rejected EDF's offer of proof on the need for stipulated penalties for failure to meet certain milestones and deadlines in the CSO abatement compliance schedule. The ALJ sustained ISC's offer of proof on the efficacy of an enhanced street sweeping program as an interim remedy to reduce floatables. Following unsuccessful appeals by NYC DEP and NYS DEC, in June 1993, the NYS DEC Commissioner ruled that ISC had raised a substantive and significant issue for adjudication; the Commissioner found that while there was no substantial factual dispute concerning the ability of the enhanced program proposed by ISC to significantly increase the capture of floatables, the principle dispute concerned "the cost of such a program." Thus, he ruled that selection of the appropriate interim measure should consider the effectiveness of removal, cost, environmental considerations, and other benefits.

Agreements to delay the actual hearing date until February 1994 have been reached by all parties. The parties need to gather hard data correlating street litter ratings to numbers of floatable items, determine by actual cleaning, the number of passes required to reach an acceptably clean level, and examine the catch basin maintenance program. The aforementioned are needed to complete the cost benefit analysis.

The ALJ's January 1993 ruling validated that specific reference to ISC's Water Quality Regulations must be adhered to. The inclusion of the Commission's Water Quality Regulations would result in a permit that comprehensively details all applicable standards. Accordingly, by June, NYS DEC had confirmed that ISC's Regulations had indeed been inserted into the permits.

Compliance with the CSO Consent Decree is lacking in all regards. Only two of the four skimmer boats agreed upon in the Consent Decree have been commissioned and are operating. Additionally, a systematic City-wide survey of catch basins was to have been completed by June 1993; the field work is still being done.

During November 1993, NYS DEC requested a status conference with the ALJ seeking judicial intervention to settle the nitrogen reduction issue or to again attempt to reach consensus. A December status conference is planned.

#### ENFORCEMENT PROCEEDING AGAINST NORTH RIVER WATER POLLUTION CONTROL PLANT

The Coalition for a Liveable West Side, joined by Southwatch, Inc.; New York City Environmental Quality, Inc.; Citizens United Against Riverwalk, Inc.; and Union Square Community Coalition, Inc. filed a complaint in federal court on December 15, 1992, against the City of New York. The Commission provided technical expertise and assistance. This action followed the NYS DEC Commissioner's decision denying ISC and the other plaintiffs party status in NYS DEC's enforcement action regarding permit violations at the City's North River sewage treatment plant. The plaintiffs sought an injunction against additional hook ups to both the North River and Wards Island treatment plants until the quantity of sewage to those plants is reduced to an amount less than that stated in the permits, or until additional plant capacity is attained through construction.

North River's permitted flow limit of 170 MGD had been exceeded for several months through January of 1992. Similarly, the flow at Wards Island exceeded its limit of 250 MGD. The complainants argued that dry weather flow limits are effluent standards within the meaning of the Clean Water Act and must be enforced by the Federal Court.



In August 1993, the Federal District Court Judge ruled in the plaintiffs' favor, affirming their right to pursue a Clean Water Act (CWA) citizen suit, despite the enforcement actions brought by the New York State Department of Environmental Conservation. The Court found that a civil penalty action could constitute a bar to a citizen suit, but not an action for injunctive relief. Moreover, it found that a citizen suit is meant to supplement rather than to supplant governmental action. In so doing, the Court differed from a prior First Circuit Court ruling. In ruling on the issue of whether certain claims were moot (to address the City's contention that if they implemented certain measures it would cure the violations), the Court ruled against the City. The Judge found that the City could not show that all violations occurred in the past and could not reasonably be expected to recur. Finally, since the CWA imposes strict liability where the facts show that permit levels were exceeded, the Court granted summary judgment for the plaintiffs on the issue of liability.

The City has now moved for a stay. The Commission has continued its monitoring of this matter and lent expertise when called upon. A centerpiece of the City's argument is that they may seek to avoid permit violations by entering into Consent Decrees with NYS DEC. This case sets new precedent in an emerging issue relating to the CWA -- the validity of citizens' suits.

#### BROOKLYN NAVY YARD RESOURCE RECOVERY FACILITY PERMIT HEARING

Although by late 1992, the City's recycling program had not been finally approved by NYS DEC, NYS DEC had approved a comprehensive solid waste management plan (SWMP) for the City. The plan included initiatives for waste reduction, recycling and composting, as well as the Brooklyn Navy Yard "waste to energy" project.

The City submitted a revised proposal which called for the disposal of ash residue from the Brooklyn Navy Yard Resource Recovery Facility (BNYRRF) at an out-of-state landfill. It was because of this new proposal that the administrative hearing on permit requirements for a municipal solid waste incinerator was reopened in late 1992. A fifth interim decision was issued in September 1993.

In late December 1992, the administrative law judge issued rulings following consideration of the significant modifications of the City's 1989 SWMP, including its recycling proposals, as well as the ash disposal plan.

Among the many issues raised, the ALJ found that none were ripe for adjudication and, accordingly, no further hearings needed to be held. The issues raised were ash residue disposal; re-



cycling proposals; compliance of the City's Recycling Plan with a legal requirement for source separation by September 1, 1992; the suitability of a co-applicant with the City to receive the requested permits; changes in the draft air and solid waste permits for the proposed facility; a new health risk assessment; the preclusion of the proposed site based on its eligibility for inclusion in the National Register of Historic Places; and the dredging of Wallabout Channel to accommodate barge and tug traffic.

The ALJ's findings were predicated upon the view that none of the issues raised met the substantive and significant standard to require adjudication. Nonetheless, he recommended that it would be appropriate to incorporate additional conditions into the circumstances under which permits might be issued. Among the more significant of the twelve recommendations were: the City must demonstrate full compliance with recycling tonnages and with source separation; they incorporate amendments to fund a community oversight committee and provide real-time, continuously monitored data telemetered directly to the NYS DEC-Region 2 offices; ultimate approval authority should be vested with a member of NYS DEC's executive staff; draft permits should be amended to incorporate prohibitions regarding the staging of barges outside the enclosed barge basin and spillage of solid waste into the surface waters; amendments to add industrial waste and consumer batteries to the list of excluded wastes; and prior to any permit issuance, the City must provide the ALJ and the parties with a detailed and comprehensive summary of its intensive recycling program.

The Fifth Interim Decision of September 9, 1993, resolved the appeals from the ALJ's December 1992 Rulings. Significantly, the NYS DEC Commissioner found that public policy concerns balance in favor of establishing a stipulated penalty to be imposed whenever there is a finding that any recycling condition has been violated. Moreover, there were adequate assurances concerning the co-applicant's reliability to comply with permit terms. The Commissioner also removed the ALJ's recommendation that there be ultimate approval authority vested with a member of NYS DEC's executive staff, and ruled that since consumer batteries were already excluded in the draft permit, it need not be a permit condition. Finally, he supplemented the ALJ ruling with the exclusion of industrial waste. The prohibitions against spillage of solid waste into surface waters was added as a permit condition.

All motions to reopen the hearing were ruled upon in October 1993 and denied. In December 1993, NYS DEC established the following procedure to be followed prior to the issuance of Permits to Construct. First, the City must demonstrate that offsets can be obtained. Second, the NYC DOS will distribute the City's proposal to all parties. Third, comments will be accepted for 30 days. Finally, NYS DEC will prepare a response. All parties now

await the City's acceptance of the permit conditions and the City's showing on offsets.

WASTEWATER TREATMENT PLANTS  
DISCHARGING INTO  
INTERSTATE SANITATION DISTRICT WATERS  
1 9 9 3

<u>Plant</u>	<u>ISC Receiving Water Classification</u>	<u>Date of Const.</u>	<u>F l o w MGD</u>		<u>Type of Treatment</u>	<u>Estimated Population Served</u>
			<u>Average</u>	<u>Design</u>		
<u>CONNECTICUT</u>						
<u>Fairfield County</u>						
Bridgeport - East Side	B-1	1973+	8.8	10.0	Secondary (AS)	45,000
- West Side	B-1	1973+	24.8	30.0	Secondary (AS)	113,000
Fairfield	A	1982+	8.8	9.0	Secondary (AS)	45,000
Greenwich	A	1982+	10.1	8.5	Secondary (AS)	54,000
Norwalk	B-1	1980+	15.7	15.0	Secondary (AS)	80,000
Stamford	B-1	1991+	15.7	20.0	Secondary (AS)	90,000
Stratford	A	1992+	9.7	11.5	Secondary (AS)	50,000
Westport	A	1975+	2.1	2.8	Secondary (AS)	14,500
<u>New Haven County</u>						
Milford - Beaver Brook	A	1987+	2.2	3.1	Secondary (AS)	16,000
- Housatonic	A	1987	6.3	8.0	Secondary (AS)	21,500
New Haven - East Shore	B-1	1993+	38.5	40.0	Secondary (AS)	215,000
West Haven	B-1	1988+	8.1	12.5	Secondary (AS)	55,000
<u>NEW JERSEY</u>						
<u>Bergen County</u>						
Edgewater	B-1	1989+	3.45	6.0	Secondary (AS)	21,000
<u>Essex County</u>						
Passaic Valley Sewerage Commissioners	B-1	1988+	283.5	330.0	Secondary (AS)	1,500,000
<u>Hudson County</u>						
Hoboken	B-1	1955	10.7	20.7	Primary	60,000
North Bergen M. U. A. - Woodcliff	B-1	1990+	2.6	2.65	Secondary (TF)	20,000
West New York	B-1	1992+	8.2	10.0	Secondary (TF)	56,200
<u>Middlesex County</u>						
Middlesex County Utilities Authority	A	1991+	115.3	120.0	Secondary (AS)	752,000
<u>Monmouth County</u>						
Cliffwood Beach	A	1964	0.52	0.75	Secondary (AS)	3,400
River Gardens	A	1978+	0.09	0.10	Secondary (AS)	1,000
<u>Union County</u>						
Joint Meeting of Essex & Union Counties	B-2	1992+	67.2	85.0	Secondary (AS)	500,000
Linden Roselle Sewerage Authority	B-2	1989+	13.2	17.0	Secondary (AS)	60,000
Rahway Valley Sewerage Authority	B-2	1991+	28.2	35.0	Secondary (AS)	175,000
<u>NEW YORK</u>						
<u>Nassau County</u>						
Bay Park	A	1992+	53.4	70.0	Secondary (AS)	510,000
Belgrave Sewer District	A	1988+	1.43	2.0	Secondary (TF)	12,000
Cedar Creek	A	1993+	53.9	56.0	Secondary (AS)	460,000
Cedarhurst	A	1968+	0.81	1.0	Secondary (TF)	6,000
Cold Spring Harbor Laboratory*	A	1975	0.046	0.075	Physical/Chemical	550 - 600
Glen Cove	A	1981+	4.25	8.0	Secondary (AS)	28,000
Great Neck Sewer District	A	1990+	2.62	3.8	Secondary (TF)	13,000
Great Neck Village	A	1988+	0.93	1.5	Secondary (TF)	9,000
Inwood	A	1989+	1.3	2.5	Secondary (TF)	8,000
Jones Beach	A	1990+	0.08	2.5	Secondary (TF)	Seasonal
Lawrence	A	1966+	1.27	1.5	Secondary (TF)	6,200



WASTEWATER TREATMENT PLANTS  
DISCHARGING INTO  
INTERSTATE SANITATION DISTRICT WATERS  
1 9 9 3

Plant	ISC Receiving Water Classification	Date of Const.	Flow MGD		Type of Treatment	Estimated Population Served
			Average	Design		
<u>NEW YORK (Continued)</u>						
<u>Nassau County (Continued)</u>						
Long Beach	A	1990+	6.2	6.36	Secondary (TF)	40,000
Oyster Bay Sewer District	A	1992+	1.15	1.8	Secondary (TF)	8,500
Port Washington Sewer District	A	1991+	2.87	4.0	Secondary (TF)	30,000
West Long Beach Sewer District	A	1986+	0.65	1.5	Secondary (TF)	5,000
<u>New York City</u>						
<u>Bronx County</u>						
Hunts Point	B-1	1977+	146.3	200.0	Secondary (AS)	630,000
<u>Kings County (Brooklyn)</u>						
Coney Island	A	1965+	104.7	100.0	Secondary (AS)	602,000
Newtown Creek	B-1	1967	288.3	310.0	Secondary (AS)	1,039,000
Owls Head	B-1	1991+	125.3	120.0	Secondary (AS)	761,000
Red Hook	B-1	1987	41.2	60.0	Secondary (AS)	192,000
26th Ward	A	1975+	70.5	85.0	Secondary (AS)	271,000
<u>New York County (Manhattan)</u>						
North River	B-1	1986	179.5	170.0	Secondary (AS)	584,000
Wards Island	B-1	1979+	268.4	250.0	Secondary (AS)	1,004,000
<u>Queens County</u>						
Bowery Bay	B-1	1978+	128.6	150.0	Secondary (AS)	727,000
Jamaica	A	1978+	76.5	100.0	Secondary (AS)	632,000
Rockaway	A	1978+	24.4	45.0	Secondary (AS)	94,000
Tallman Island	B-1	1979+	59.2	80.0	Secondary (AS)	388,000
<u>Richmond County (Staten Island)</u>						
Arthur Kill Correctional Facility**	B-2	1969	0.04	0.1	Secondary (AS)	1,000
Atlantic Village	A	1985	0.043	0.076	Secondary (AS)	-
Elmwood Park Condominiums	B-1	1974	1.5	2.0	Primary	20,000
IS-7*	A	1964	0.0045	0.021	Extended Aeration w/ Sand Filtration	1,000
Mount Loretto Home - Plants #1 & #2*	A	1962	0.041	-	Septic Tank	1,000
Oakwood Beach	A	1979+	27.4	40.0	Secondary (AS)	152,000
Point East Condos*	A	1986	-	0.16	Extended Aeration w/ Sand Filtration	300
Port Richmond	B-2	1979+	40.3	60.0	Secondary (AS)	172,000
Princess Bay*	A	1987	0.06	0.16	Extended Aeration w/ Sand Filtration	500
PS-3*	A	1969	-	0.004	Extended Aeration	1,000
PS-42*	B-2	1967	0.002	0.021	Secondary (AS)	1,100
Saint Joseph's School*	A	1963	-	0.02	Septic Tank with Sand Filtration	1,200
Staten Island University Hospital, South*	A	1985+	0.025	0.04	Secondary (AS)	750
Treetop Village*	A	1985	-	0.25	Extended Aeration w/ Sand Filtration	-
Woodbrook Village*	B-1	1980	0.46	0.7	Extended Aeration	3,700
<u>Rockland County</u>						
Joint Regional Sewerage Board-Town of Haverstraw	A	1980+	5.49	8.0	Secondary (AS)	33,000
Orange & Rockland Utilities*	A	1984+	0.005	0.012	Secondary (AS)	Industrial
Orangetown Sewer District	A	1985+	8.8	8.5	Secondary (TF)	52,000

WASTEWATER TREATMENT PLANTS  
DISCHARGING INTO  
INTERSTATE SANITATION DISTRICT WATERS  
1 9 9 3

Plant	ISC Receiving Water Classification	Date of Const.	Flow MCD		Type of Treatment	Estimated Population Served
			Average	Design		
<u>NEW YORK (Continued)</u>						
<u>Rockland County (Continued)</u>						
Palisades Interstate Park						
Bear Mountain Plant	A	1967+	0.026	0.25	Secondary (TF)	Seasonal
Tallman Mountain Plant	A	1968	0.004	0.01	Secondary (AS)	Seasonal
Rockland County Sewer District #1	A	1989+	19.2	26.0	Secondary (RD)	160,000
Stony Point	A	1985+	1.00	1.0	Secondary (AS)	10,000
<u>Suffolk County</u>						
Huntington Sewer District	A	1988+	1.68	2.5	Secondary (RD) (TF)	25,000
Northport	A	1973+	0.34	0.34	Secondary (AS)	3,500
Suffolk County Sewer District #1	A	1988+	0.59	2.5	Secondary (RD)	12,000
Suffolk County Sewer District #3	A	1989+	20.9	30.0	Secondary (AS)	215,000
Suffolk County Sewer District #6	A	1973+	0.59	2.0	Secondary (AS)	10,000
Suffolk County Sewer District #21	A	1989	1.94	2.5	Secondary (BO)	20,000
<u>Westchester County</u>						
Blind Brook (Rye)	A	1985+	3.5	5.0	Secondary (AS)	25,000
Buchanan	A	1990+	0.18	0.50	Secondary (AS)	2,500
Kings Ferry Sewer Association*	A	1992+	0.028	0.05	Secondary (AS)	600
Mamaroneck	A	1993+	17.2	20.6	Secondary (AS)	80,000
Metro North (Harmon Shop)*	A	1985+	0.06	0.40	Physical/Chemical	500
New Rochelle	A	1982+	17.5	13.6	Secondary (AS)	80,000
Ossining	A	1981	5.6	7.0	Secondary (AS)	40,000
Peekskill	A	1980+	6.4	10.0	Secondary (AS)	35,000
Port Chester	B-1	1990+	4.7	6.0	Secondary (RD)	26,000
Springvale Apartments Company*	A	1991+	0.11	0.13	Secondary (RD)	1,000
Yonkers Joint Treatment	A	1988+	96.2	92.0	Secondary (AS)	500,000
<u>FEDERAL &amp; MILITARY</u>						
Camp Smith - (Westchester Co.)	A	1988+	0.06	0.24	Secondary (TF)	2,000
FDR Veterans Administration	A	1982+	0.19	0.4	Secondary (TF)	3,000
Medical Center (Westchester Co.)						
Gateway National Recreation Area	A	1981+	0.12	0.4	Secondary (TF)	5,000
(Floyd Bennett Field, Kings Co.)						
Military Ocean Terminal (Hudson Co.)	B-1	1982+	0.13	0.18	Secondary (AS)	3,000

NOTES: Except for the ISC Receiving Water Classification, all information and data are supplied by the individual operating entities and are published as supplied.

+ Year of major additions or reconstruction

\* Private or institutional sewage treatment plant

\*\* Flow was diverted to a secondary treatment plant in 1993

(AS) Activated Sludge

(BO) Biochemical Oxidation

(RD) Rotating Disc

(TF) Trickling Filter

INTERSTATE SANITATION COMMISSION  
FINANCIAL STATEMENT FY 1993

The Commission's accounting records are maintained on a cash basis and are audited annually. The following is a statement of cash receipts and disbursements for fiscal year July 1, 1992 to June 30, 1993:

CASH BOOK BALANCE AS OF JUNE 30, 1992-----\$208,427.74

RECEIPTS

Connecticut - FY '93	\$ 3,333.00	
New York - FY '93	215,000.00	
New Jersey - FY '93	215,000.00	
EPA - FY '92	79,412.00	
EPA - FY '93	220,397.00	
Interest	5,227.04	
Miscellaneous Receipts	<u>26,500.36</u>	
TOTAL RECEIPTS		<u>764,869.40</u>
	Sub-Total	\$973,297.14

DISBURSEMENTS

TOTAL DISBURSEMENTS	<u>840,292.11</u>
CASH BOOK BALANCE ON June 30, 1993	<u>\$133,005.03</u> =====

Insured Money Market Account	\$123,420.08
Checking Account	<u>9,584.95</u>
	<u>\$133,005.03</u> =====



## G L O S S A R Y

ACOE	Army Corps of Engineers
ALJ	administrative law judge
BGD	billion gallons per day
BNR	biological nutrient removal
BOD	biochemical oxygen demand
BNY	Brooklyn Navy Yard
CCMP	Comprehensive Conservation and Management Plan
CSI	College of Staten Island
CSO	combined sewer overflow
CWA	Clean Water Act
DEC	Department of Environmental Conservation
DEP	Department of Environmental Protection
DEPE	Department of Environmental Protection and Energy
DOS	Department of Sanitation
EDF	Environmental Defense Fund
EPA	Environmental Protection Agency
FY	fiscal year
HEP	Harbor Estuary Program
HRFA	Hudson River Fisherman's Association
HUCWSA	Hoboken-Union City-Weehawken Sewerage Authority
HVAC	heating, ventilating and air conditioning
I/I	infiltration/inflow
ISC	Interstate Sanitation Commission
ISD	Interstate Sanitation District
LISS	Long Island Sound Study
MGD	million gallons per day
NEP	National Estuary Program
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
N/SPDES	National/State Pollutant Discharge Elimination System
NYBRP	New York Bight Restoration Plan
NYLPI	New York Lawyers For the Public Interest
NYC	New York City
NYS	New York State
ODBA	Ocean Dumping Ban Act
POTW	publicly owned treatment works
PWG	Pathogens Work Group
R/V	research vessel
RFP	request for proposals
RRF	resource recovery facility
SPDES	State Pollutant Discharge Elimination System
SSES	sewer system evaluation survey
STP	sewage treatment plant
SUNY	State University of New York
SWMP	Solid Waste Management Plan
TSS	total suspended solids
WPCP	water pollution control plant