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INTERSTATE SANITATION COMMISSION
110 WILLIAM STREET • NEW YORK 38, N. Y.

January 17, 1956

To His Excellency, Robert B. Meyner
His Excellency, Abraham A. Ribicoff
His Excellency, W. Averell Harriman, and
The Legislatures of the States of
New Jersey, Connecticut and New York

Sirs:

We are honored to submit the report of the Interstate Sanitation Commission for 1955, which embraces only the water pollution activities of this Commission. A separate report is being rendered relating to the air pollution studies which this Commission was directed to conduct under acts of the Legislatures of New York and New Jersey.

Nineteen hundred fifty five concludes the twentieth year of activity of the Interstate Sanitation Commission. Accordingly, "Cleaning Up the Doorway to America" is added as a supplement to this annual report, summarizing twenty years of progress.

The support of the Governors and the Legislatures of each of the three states has been a vital factor in this Commission's work in controlling water pollution which makes such a great impact on the health, well-being and economy of the vast population of this "Doorway to America".

Respectfully yours,

For the State of New Jersey

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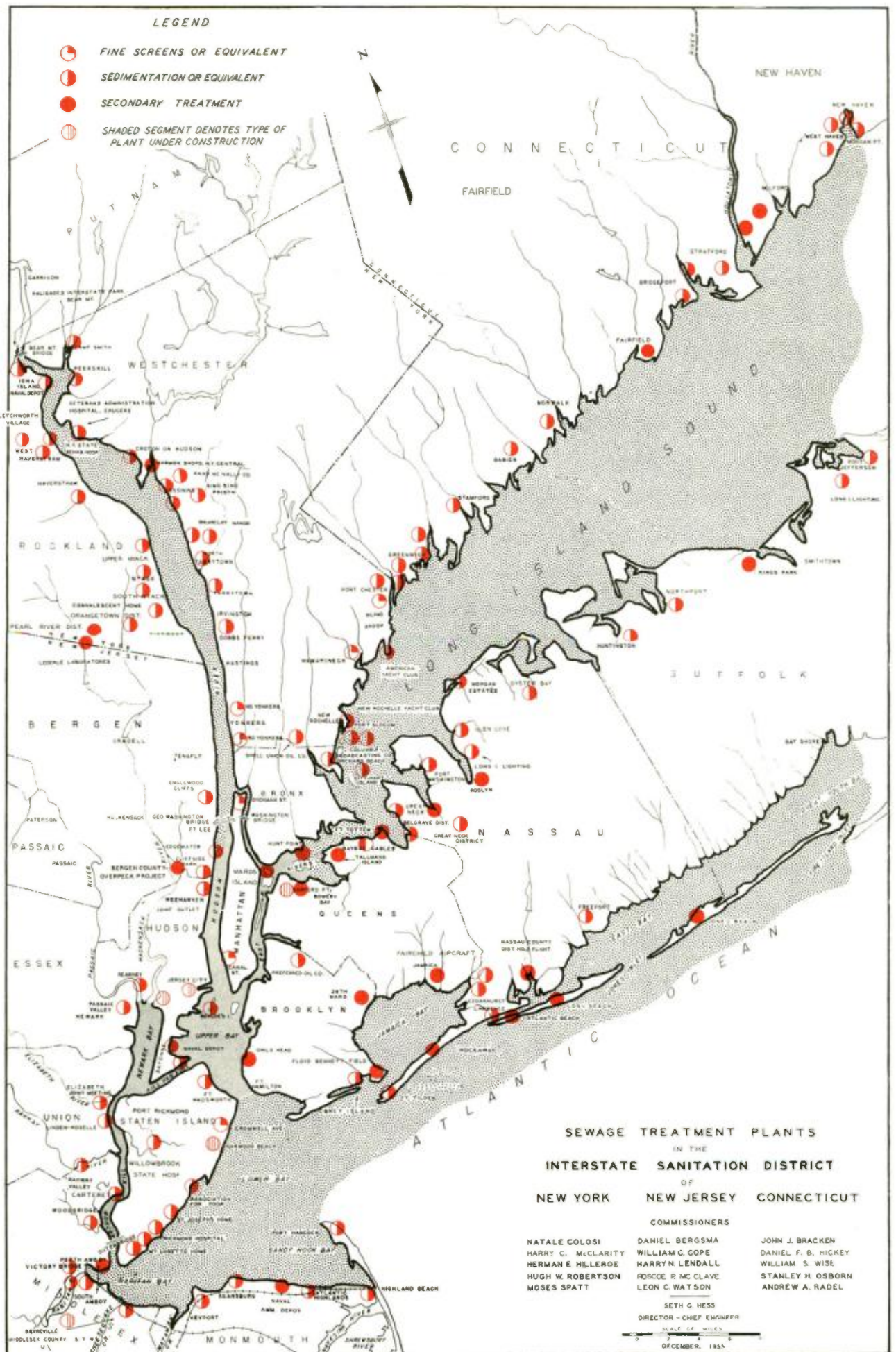
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F O R E W O R D

During 1955, significant advances were made towards the abatement of pollution in metropolitan waters.

1. Four sewage treatment projects were completed: in New Rochelle, New York; in Kearny, New Jersey; in Fort Hamilton, which was connected to the Owls Head Sewage Treatment Plant of New York City; and in Freeport, New York;
2. Construction continued on nine other pollution abatement projects, costing over \$100,000,000;
3. Steps towards the eventual completion of adequate treatment in eleven other communities were taken;
4. Surveys of the Interstate Sanitation District waters were continued;
5. Inspections to determine the adherence of sewage treatment plants to Commission standards were maintained;
6. Preliminary meetings were held on the more effective control of waterborne industrial wastes; and
7. Further advances were made towards the eventual control of pollution emanating from small boats.



STATUS OF MUNICIPAL ABATEMENT

The completion of four treatment projects in 1955 further advanced the three general phases of the Commission's overall program.

- Phase I - To free all Class "A" waters of raw sewage discharges.
- Phase II - To free all Class "B" waters of raw sewage discharges.
- Phase III - To free both Class "A" and "B" waters of treated discharges which are inadequate by Commission standards.

The progress made on all three of these phases has been considerable as can be attested to by the sum of money invested in treatment works completed or presently under construction, over \$300,000,000; the total flow treated, 1,143. million gallons per day; and the total flow adequately treated, 961. million gallons per day. Advances have been such that Phase I is 99% completed, Phase II, 73% completed, and Phase III, 89% completed

However, considerable caution should be exercised in the interpretation of the foregoing "completion" data. It is expected that in the future plants presently considered adequate will become inadequate. In general, treatment plants are designed, insofar as capacity is concerned, for a twenty year period. At present, 30 of the 138 plants discharging to our District waters are over twenty years of age.

COMPLETED PROJECTS

NEW ROCHELLE, New York

The New Rochelle, New York, plant was

completed during 1955 and is presently under operation. The plant serves the New Rochelle Sanitary Sewer District in eastern Westchester County. The plant is designed for an ultimate population of 81,000 with a contributing flow of 15.0 million gallons per day, and was constructed at a cost of approximately \$5,000,000.

The plant consists of comminutors, grit removers, an eight channel settling tank 156 feet long with each channel 20 feet wide, four sludge digestors with a side wall depth of 20 feet. The digested sludge is elutriated, dried on vacuum filters, and then burned in an incinerator. The treatment works are operated by the Westchester County Department of Public Works.

The Commission issued an order in 1952 pertaining to certain other treatment plants operated by the Westchester County Department of Public Works. Since 1952, the County has completed preliminary surveys and plans of plants discharging to the Hudson River and it is intended that the engineering design will have been completed by December 31, 1955 and construction started December 31, 1956.

FREEPORT, New York

The first stage of an extensive reconstruction and enlargement program was completed late in 1955 at a cost of \$380,000. A prominent feature of this project was a novel design for the sedimentation tanks advanced by the designing engineer. To eliminate the need for piling because of subsurface conditions, the primary and secondary sedimentation tanks were stacked one above the other and a deep excavation to firm bearing soil was utilized. The new plant includes dual primary and secondary sedimentation tanks with the original primary tank being utilized as a chlorination chamber. The second stage will add two high rate trickling filters at an estimated cost of \$600,000. The design

calls for service to 37,000 persons contributing a flow of 4 million gallons per day.

KEARNY, New Jersey

The Meadowlands Sewage Disposal Plant in Kearny, New Jersey, was completed in 1955. The plant was designed to handle 4,000,000 gallons a day from the highly industrialized areas of Kearny. The plant consists of 2 grit chambers, 2 flocculators, 2 digestors, chlorination units and high-lift pumps. The cost of this plant was \$3,000,000.

FORT HAMILTON, New York

A system of intercepting sewers was completed late this year at the Fort Hamilton Army Base in Brooklyn. This system of intercepting sewers will convey the sewage from the Army Post to the New York City Sewer System. The project was completed at a cost of \$350,000 and eliminates a major source of pollution from the Lower Bay area.

PROJECTS UNDER CONSTRUCTION

The pollution abatement projects presently under construction are of two general types:

1. Projects designed to serve areas previously without any semblance of sewage treatment works, and
2. Projects designed to rehabilitate or replace inadequate plants.

In the first category are the Jersey City and Elizabeth projects, while in the second category are the Port Jefferson and Glen Cove projects. The projects under construction are designed to remove fifty-three million gallons per day of untreated sewage.

Construction Projects

	<u>Design Flow(M.G.D.)</u>	<u>Estimated Cost(\$)</u>	<u>Design Tributary Population</u>
Bowery Bay, N.Y.C.	120.0	42,000,000	1,000,000
Oakwood Beach, N.Y.C.	15.0	8,000,000	160,000
Jersey City, N.J.	-	38,000,000	-
Elizabeth, N.J.	-	5,000,000	-
Fort Lee, N.J.	-	523,000	-
Huntington, L.I.	2.0	450,000	20,000
Port Jefferson, L.I.	0.5	340,000	3,000
Glen Cove, N.Y.	3.0	825,000	30,000
Middlesex County Sewerage Authority Treatment Plant	52.0	24,950,000	299,410

GLEN COVE, New York

The City of Glen Cove has under way a complete reconstruction of its sewage treatment plant. The new plant includes two new primary sedimentation basins, two new trickling filters, conversion of the present primary sedimentation basins, addition of a secondary stage of sludge digestion and two new larger capacity automatic chlorinators. Capacity of the plant is to be increased from 2.1 million gallons per day to 3.0 million. Completion is expected early in 1956. The estimated total cost is \$825,000.

MIDDLESEX COUNTY SEWAGE TREATMENT PLANT,
New Jersey

Construction was started in October of this year on the Middlesex County Sewage Authority Treatment Plant. A comprehensive system of intercepting and trunk sewers is also being

constructed to drain to this plant. The entire program is expected to be completed in September of 1957. The project is estimated to cost \$25,000,000.

HUNTINGTON, New York

Contracts were awarded and construction started this year to completely reconstruct the Huntington Sewage Treatment Plant. Being built at an estimated cost of \$450,000 are 3 new primary tanks, 2 high-rate filters, the conversion of the present primary settling tanks to secondary settling tanks, the addition of one sludge digestion tank and aerated grit channels. The capacity of the plant will also be increased from 1 million gallons to 2 million gallons per day.

PORT JEFFERSON, New York

Pursuant to the order of the Interstate Sanitation Commission, the Port Jefferson Sewer District of the Town of Brookhaven, Long Island, accepted bids for the reconstruction for the Port Jefferson Treatment Plant. Construction is to begin early in 1956. The total cost of the project is estimated to be \$340,000. The new treatment plant will consist of a combined flocculator and clarifier, a sludge digestion tank, and chlorination equipment for both pre and post-chlorination.

JERSEY CITY, New Jersey

Construction is continuing on the Jersey City Sewage Treatment Plant System and is at present more than 50% complete. This \$38,000,000 project will serve the present 300,000 population of Jersey City with two treatment plants and a system of intercepting sewers seventeen miles in length. Completion is expected in 1956.

NEW YORK CITY

The City of New York has presently under way

one of the largest overall pollution abatement programs in the world. One hundred and fifty million dollars are already invested in capital improvements for the program, of which 119 million have been spent since 1948 under the program jointly agreed upon by the City of New York and the Interstate Sanitation Commission. Stage two of the program, which calls for treatment of all dry weather wastes emanating from the City, will cost an estimated additional 175 million dollars in capital investment. New York City has asked for an extension in order to complete the second phase originally scheduled for completion in 1959.

The largest project presently under construction by New York City is the Bowery Bay plant. The existing Bowery Bay works were put into operation in late 1939, and provided primary treatment for the northwest part of Queens Borough. In 1942 secondary facilities for the plant were completed. The new plant will have a design capacity of 120 million gallons per day and will provide preliminary screening, grit removal, primary sedimentation, step aeration, and final settling. The sludge will be thickened and then digested with power generated by burning the sludge gas. The digested sludge will be barged to sea, as are the final sludge products for the existing New York City treatment plants.

The Oakwood Beach project in Staten Island, though of considerably smaller size than the Bowery Bay project, 15.0 million gallons per day as opposed to 120.0 mgd, nonetheless may conceivably be of great importance in protecting bathing beach waters. The Oakwood Beach plant will discharge to the Class "A" waters of the New York Lower Bay whereas the Bowery Bay plant discharges to the Class "B" waters of the Upper East River. It is expected that the first stage of the Oakwood Beach plant will be completed in 1956.

Some modification in the master plan of New

York City for its treatment plant sites and tributary areas has had to be made. This modification has arisen out of the disproportionate increase in the cost of tunneling as opposed to the cost of other requisite construction. It is estimated that approximately 25 million dollars will be saved in capital costs by the decentralization of treatment plants and tributary areas thereby requiring considerably less tunneling. In addition, it is estimated that operation and maintenance costs savings will total about \$800,000.

In addition to the progress recorded by the construction of the Bowery Bay and Oakwood Beach plants, a singular advance towards the elimination of comparatively minor sources of pollution was made by the formation of the "Mayor's Committee on Marginal Pollution Sources". There are several sources of pollution which have long been objectionable. One such is the overflow from the Stillwell Avenue Regulator which discharges into Coney Island Creek. Ostensibly, the regulator is supposed to allow the discharge of mixed storm and sanitary wastes to prevent the flooding of pump stations and sewage treatment plants during storm periods. However, on numerous occasions, Commission personnel have observed that the regulator bypasses undiluted sanitary wastes during periods of dry weather. Previous to the formation of the Marginal Pollution Committee, considerable difficulty was encountered in the establishment of administrative channels towards the removal of these sources.

One such source of pollution is presently being removed through the efforts of the Bronx County Department of Health. It is primarily due to the discharge of private sewer lines in the vicinity of Clason Point, Bronx.

ELIZABETH, New Jersey

The project under construction in Elizabeth will divert the sewage of approximately 50,000

people, whose wastes are now untreated, to the existing Elizabeth Joint Meeting Treatment Plant.

FUTURE PROJECTS

Progress was also made in bringing closer to the construction stage the small number of communities discharging raw sewage to District waters. Extension of service lines to hook up untreated areas with already existing plants is being furthered. Replacement of inadequate facilities is also receiving growing recognition by many communities in the District.

Raw discharges are to be eliminated from Hoboken, Weehawken, North Bergen and Guttenberg in New Jersey and New York City in New York. Extensions of presently existing trunk sewer systems to service untreated areas will remove all raw discharges and convey them to treatment facilities. Negotiations to accomplish this have been completed in many areas and are being carried on in others. These communities include Peekskill, Irvington, Ossining, and New York City in New York; also Newark and Cliffside Park in New Jersey.

The replacement of inadequate or overtaxed facilities is increasing in the District. Piermont, Port Chester, Westchester County and New York City are currently engaged in increasing the size and adequacy of existing units to meet the needs of the ever growing population.

OPERATION OF EXISTING PLANTS

Despite the increased survey program of entrant and District waters, the Commission was able to increase the number of investigations in its plant sampling program. These inspections are conducted to determine adherence to Commission standards for all plants discharging to District waters and forms the basis for Commission action to secure the abatement of violations and/or necessary correction. It provides

assurance to each state that control is being exercised over the degree of treatment afforded in the other states that might affect the quality of interstate waters.

The procedure for the plant investigation program continues substantially as it has in the past. Samples are collected at the treatment plant and analyzed both in the field and in the Commission's laboratory. A composite sample is prepared at 3:30 from pint samples which are collected at half-hourly intervals from 8:00 A.M. to 3:30 P.M. Hydrogen ion concentration and residual chlorine are determined in the field and lactose broth tubes are inoculated for determination of the presence of coliform organisms. Pertinent data as to flow and chlorine application are also recorded. Examination of the composite samples for suspended solids removals, bacteriological tests, and other analyzes, are then performed in the Commission laboratory.

S U R V E Y S

Various surveys were conducted by the Commission staff during 1955. Of these, some were surveys to determine the general quality of District waters in certain areas of the District and others were to determine the quality of the waters entering the District. Two of the major surveys conducted are described in some detail below.

As an adjunct to its survey program, a series of meetings were held with all of the other pollution control agencies operating in the Metropolitan Area who sample District waters. The purpose of the meetings was to compare past experience and procedures in the collection and analysis of samples and to recommend such modifications as were deemed necessary as a result of the studies conducted.

UPPER NEW YORK HARBOR SURVEY

The Upper New York Harbor Survey is a continuation of the survey started in late 1952 as a cooperative venture with the United States Army Corps of Engineers, New York District Office. The purpose of the survey is to determine the degree of conformance of the discharge of the Passaic Valley Sewer System with the criteria of a Supreme Court Stipulation of 1910.

One of the most marked aspects of the data resulting from this survey is the effect of seasonal and tidal variation. Although there was no doubt as to the importance of seasonal and tidal variations, methods to analyze the extent of these influences were non-existent. It has therefore become necessary, as a concomitant project with the report on the New York Harbor Survey to develop a method to analyze

the data resulting from the survey.

Not only will the data obtained to date provide a substantial body of information pertaining to the effect of the Passaic Valley discharge from the waters of the Upper Harbor but it will also serve as a yardstick in gauging the effect of the improvement planned for the Passaic Valley Treatment Works. It also forms the basis of data being accumulated by the Commission to evaluate pollution and its effect on the entire harbor.

The Passaic Valley improvements have been described in some detail in previous reports of the Commission and, in general, constitute a revamping of the entire Passaic Valley Treatment Works as well as the disposal field in the Upper Harbor. During 1954, legislation was adopted empowering the Passaic Valley Commission to issue bonds in the amount of \$10,000,000. It is expected that construction of the Passaic Valley improvements will be under way in the immediate future.

RARITAN RIVER SURVEY

The waters of the Raritan River flow into the waters of the Interstate Sanitation District at Victory Bridge, close to the mouth of the Raritan. As an entrant water into the Interstate Sanitation District, the Raritan River comes within the purview of the Tri-State Compact.

The waters in the vicinity of the mouth of the Raritan River are of contemporary interest due to the construction of the Middlesex County Authority Sewage Treatment Works. The Middlesex County Authority Sewage Treatment Works will discharge treated sewage into Raritan Bay, within New Jersey State waters, south of Wards Point on Staten Island. Thus, the Raritan River survey in addition to serving as an entrant water survey gives data about the "before" conditions in the general area of the Middlesex County

Authority discharge point. Arthur Kill has also been surveyed and it is intended that a technical report on the Kill survey will be issued in the near future. Samples in the immediate vicinity of the proposed Middlesex County Authority Sewage Treatment Works discharge site were collected and analyzed by the New York State Department of Conservation and the New Jersey Department of Health. Samples close to the shore were taken and analyzed by the New York City Department of Health. Although several past surveys have been conducted in the Raritan Bay and the Raritan River, the determination of "average" conditions in the Bay and River and the deviation from these average conditions has not yet been made. The determination of representative "average" conditions requires knowledge of the magnitude of tidal and seasonal variations which heretofore have only been roughly approximated.

Surveys were conducted on the following dates:

May 31, 1955	-	34 samples
June 7, 1955	-	34 samples
June 14, 1955	-	3 samples
June 21, 1955	-	3 samples
June 28, 1955	-	102 samples
July 7, 1955	-	3 samples
July 19, 1955	-	3 samples
July 26, 1955	-	3 samples
August 2-3, 1955	-	<u>144 samples</u>
Total		329 samples

For a concept of the mouth of the River in its average state and the magnitude of its transient departures from the average state, values have to be interpolated between the survey dates and extrapolated before and after the period of the survey, in the lack of other survey data. This interpolation and extrapolation can give values which differ considerably from the true values. For instance, if a survey had not been conducted on June 28, and it would have been necessary to interpolate a value of average surface dissolved oxygen

saturation for that date on the basis of the other surveys, a linear interpolation between the average values obtained for June 7 and July 7 gives 62. percent of saturation. The actual survey value was 91.6 percent.

To some extent the shortcomings of linear interpolations have been removed by the methods used in the statistical analyses of survey data. However, although extrapolation over a tidal cycle was considered justifiable, such is not the case for seasonal changes.

Seasonal changes in other parts of New York Harbor have been observed by the Commission staff and survey data in these areas are amenable to the statistical analyses for seasonal changes. However, for one, the marked diurnal components in dissolved oxygen indicate that these diurnal changes can be large enough in magnitude to alter the entire shape of the seasonal curve. Accordingly, no generalizations can presently be attempted.

A scanning of the totality of the survey parameters indicates that perhaps the single most important fact to be gleaned is the change in the Raritan experienced in late July. After this change, there appeared to be little fresh water available for the dilution of waste materials introduced into the river waters and further this fresh water does not appear to be concentrated at the surface.

The data available as a result of the surveys will probably have its greatest use as adjuncts to the contemporary and more comprehensive surveys conducted by state agencies of New York and New Jersey and by New York City and as a comparison for future surveys.

CONTROL OF CABIN CRUISER POLLUTION

The discharge of any type of body wastes into the tidal waters of the Metropolitan Area is under the jurisdiction of the Interstate Sanitation Commission. The investigation of the overall problem and the procedures which might affect an amelioration of waste discharges from small boats is therefore a responsibility of the Commission.

The overall program can be separated into three general phases, of which the first two are completed and the third is substantially on the way towards completion. These phases are as follows:

1. Investigation of the effect of pollution from cabin cruisers while at anchorage in a suitable harbor.
2. Determination of the design criteria for effective treatment of cabin cruiser pollution.
3. The development of the necessary treatment equipment.

As has been reported in previous annual reports of the Commission, the first phase of the overall program, namely the investigation of the effects of cabin cruiser pollution, was conducted during the summer of 1953. In general, it was found that pollution emanating from small pleasure craft do have some effect on the quality of the harbor waters in which they are anchored. The overall effect is erratic and related to the particular conditions of boat congestion near a sampling point, the condition of tidal flow, and the activity of the individuals aboard the cabin cruisers.

The second phase of the program, to determine the design criteria for a suitable treatment unit, was completed during 1954. Both the field investigations held during 1953 and the laboratory investigations held in 1954 were conducted by the Research Division of New York University under directives established by the Commission.

Boat equipment manufacturers have developed waterborne treatment units during 1955. Their capability of treating body wastes is being assessed. Fourteen pleasure boats were equipped with a treatment and disposal unit developed by the Wilcox-Crittenden Company. Available reports indicate that these installations are operating and tests on the efficiency of the unit are being conducted by Wesleyan University.

INDUSTRIAL WASTES CONTROLS

The discharge of industrial wastes, as distinct from sanitary wastes, into the waters of the Interstate Sanitation District, have been the subject of reports of the Commission which have detailed both the magnitude of directly discharged industrial wastes and indirectly discharged wastes. It is estimated that approximately 500,000,000 gallons per day of industrial wastes are discharged directly to the District waters and a considerably lesser amount indirectly through community owned sewer lines. However, although the industrial waste discharges rival in magnitude those of sanitary sewage discharges which are estimated at approximately 12 hundred million gallons per day, the degree of control over industrial wastes is not as great as over sanitary wastes. In the 1930's, when the Tri-State Compact, under which the Commission operates, was being written, industrial wastes were not considered an important polluting medium in the waters of the Metropolitan Area. Since then, many industrial wastes have been created which were unknown or little considered then. An outstanding example is radioactive waste. There are many others.

Preliminary meetings were held in 1955 with pollution control officials of the States of New York, New Jersey, and Connecticut to consider industrial waste discharges.

A P P E N D I X

SEWAGE TREATMENT PLANTS

Discharging into the
INTERSTATE SANITATION DISTRICT

SEWAGE TREATMENT PLANTS
Discharging into the
INTERSTATE SANITATION DISTRICT WATERS

Plant	Receiving Water Class	Date of Const.	F l o w MGD Average	Design	Estimated Cost of Construction	Type of Treatment	Estimated Population Served
<u>CONNECTICUT</u>							
<u>Fairfield County</u>							
Bridgeport - East Side	A	1950+	10.5	14.0	2,083,000	Primary	68,000
- West Side	A	1951+	22.0	17.0	2,147,000	Primary	82,000
Darien	A	1940	0.5	0.6	565,000	Primary	6,000
Fairfield	A	1952	1.5	4.0	1,255,000	Secondary	5,000
Greenwich - Byram	A	1915	0.2	0.3	33,000	Septic Tank	3,500
- Cos Cob	A	1930	0.7	0.5	178,000	Septic Tank	5,100
- Grass Island	A	1939+	2.1	5.0	265,000	Primary	11,200
- Old Greenwich	A	1932+	1.1	0.8	171,000	Primary	5,800
Norwalk	A	1953+	8.8	11.25	2,900,000	Primary	34,000
Stamford	A	1943+	7.0	10.0	1,225,000	Primary	45,000
Stratford	A	1953+	3.6	4.8	825,000	Primary	26,000
<u>New Haven County</u>							
Milford	A	1954	0.7	1.2	922,000	Secondary	6,000
New Haven - Boulevard	A	1940	17.0	13.75	917,000	Primary	90,000
- East Shore	A	1953	4.6	7.00	1,960,000	Primary	25,000
- East Street	A	1940+	12.5	11.3	960,000	Primary	53,000
West Haven	A	1950+	2.5	2.35	450,000	Primary	27,000
<u>NEW JERSEY</u>							
<u>Bergen County</u>							
Cliffside Park	B	1914	0.35	0.35	75,000	Imhoff Tank	5,600
Edgewater	B	1953	-	1.6	1,661,000	Primary	-
Englewood Cliffs	A	1945+	0.20	0.20	157,000	Imhoff Tank	1,000
<u>Hudson County</u>							
Bayonne	B	1954	10.0	20.0	4,840,000	Primary	77,000
Joint Outlet (West New York)	B	1953	5.5	10.0	1,700,000	Primary	50,000
Kearney	B	1955	-	4.0	3,000,000	Primary	-
<u>Middlesex County</u>							
Cartaret	B	1953	2.4	3.0	2,546,000	Chemical	13,000
Perth Amboy	A	1934	7.0	10.0	424,000	Chemical	41,300
Sayreville - Melrose	A	1949	0.01	0.1	200,000	Primary	1,000
- Morgan	A	1951	0.01	0.3	300,000	Primary	2,000
South Amboy	A	1940	0.7	1.0	135,000	Primary	8,400
Woodbridge	B	1954	3.0	10.0	3,477,000	Chemical	21,000
<u>Monmouth County</u>							
Atlantic Highlands	A	1928	0.35	0.6	80,000	Primary	3,000
Highlands	A	1928	0.35	1.2	151,600	Primary	3,000
Keansburg	A	1949+	2.0	2.0	294,000	Chemical	5,600
Keyport	A	1936+	0.4	0.4	50,000	Primary	5,900
<u>Union County</u>							
Elizabeth Joint Meeting	B	1937	38.0	100.0	5,618,000	Primary	350,000
Linden - Roselle	B	1952	7.9	12.5	4,028,092	Primary	52,500
#Passaic Valley	B	1937+	180.e	-	-	-	1,100,000e
<u>NEW YORK</u>							
<u>Nassau County</u>							
Belgrave Sewer District	A	1948+	1.5	2.0	345,000	Chemical	7,000
Cedarhurst	A	1934+	0.8	1.5	145,000	Primary	6,000
*Fairchild Engine & Aircraft Company (Hempstead)	A	-	0.02	0.04	-	Septic Tank	-
Freeport	A	1955+	2.0	4.0	900,000	Secondary	20,000
Glen Cove - Morgan Island Estates	A	1948	0.05	0.05	-	Septic Tank	100
- Morris Avenue	A	1952+	2.0	2.0	200,000	Primary	15,000
Great Neck Dist. - Plant # 1	A	1950+	1.0	1.5	205,000	Imhoff Tank	5,000
- Plant # 2	A	1950+	0.5	1.0	250,000	Primary	6,000
Great Neck Village	A	1948+	0.6	1.2	360,000	Secondary	6,000
Jones Beach	A	1951	Seasonal	1.0	1,000,000	Secondary	Seasonal
Lawrence	A	1948+	0.7	1.0	230,000	Primary	3,000
Long Beach - National Blvd.	A	1953+	Seasonal	9.55	2,100,000	Secondary	Seasonal
*Long Island Lighting Company (Glenwood Landing)	A	1929	0.001e	-	-	Septic Tank	70

SEWAGE TREATMENT PLANTS
Discharging into the
INTERSTATE SANITATION DISTRICT WATERS

Plant	Receiving Water Class	Date of Const.	Flow MGD Average	Design	Estimated Cost of Construction	Type of Treatment	Estimated Population Served
<u>NEW YORK (continued)</u>							
<u>Nassau County (continued)</u>							
Nassau County Sewer Dist. # 2	A	1951	9.8	27.0	9,500,000	Secondary	90,000
*North Shore Country Club (Glenwood Landing)	A	-	0.001e	-	-	Septic Tank	Seasonal
Oyster Bay Sewer District	A	1928	1.0	1.0	111,600	Imhoff Tank	6,000
Port Washington Sewer District	A	1952+	1.5	3.0	1,207,000	Secondary	13,000
Roslyn	A	1950+	0.2	0.4	350,000	Secondary	2,000
West Long Beach Sewer District (Atlantic Beach)	A	1951+	Seasonal	1.5	776,000	Secondary	Seasonal
<u>NEW YORK CITY</u>							
<u>Bronx County</u>							
Hart-City Island	A	1942	0.7	1.5	670,000	Primary	6,700
Hunts Point	B	1952	93.0	120.0	28,640,000	Secondary	700,000
Orchard Beach	A	1945+	Seasonal	0.06	-	Chemical	Seasonal
<u>Kings County (Brooklyn)</u>							
Coney Island	A	1942+	59.0	70.0	5,744,000	Chemical	463,000
Owls Head	B	1952	84.0	160.0	23,220,000	Secondary	750,000
26th Ward	A	1951+	41.0	60.0	9,425,000	Secondary	400,000
*Preferred Oil Company	B	1948	0.05	-	-	Septic Tank	-
<u>New York County (Manhattan)</u>							
Canal Street	B	1927+	4.1	15.0	-	Screening	38,000
Dyckman Street	A	1917	5.0	7.5	-	Screening	39,000
Wards Island	B	1949+	215.0	240.0	31,600,000	Secondary	1,406,000
<u>Queens County</u>							
*Bayside Gables (Bayside)	A	-	0.008e	-	-	Septic Tank	600
Bowery Bay	B	1942+	38.0	40.0	5,240,000	Secondary	360,000
Jamaica	A	1943+	46.0	65.0	7,000,000	Secondary	460,000
Rockaway	A	1952	11.0	15.0	6,970,000	Secondary	90,000
Tallman Island	A	1939	30.0	40.0	5,671,000	Secondary	210,000
*Westmoreland Gardens Apartments (Bayside)	A	-	0.05e	-	-	Septic Tank	-
<u>Richmond County (Staten Island)</u>							
*Association for Improvement of the Poor	A	1935	0.008	0.015	-	Septic Tank	400
Cromwell Avenue	A	1924	5.6	4.0	-	Screening	17,000
*Mount Loretto Home - Plant # 1	A	-	0.009	0.1	-	Septic Tank	800
- Plant # 2	A	-	0.03	0.045	-	Septic Tank	350
Oakwood Beach	A	1927	2.6	5.5	-	Screening	37,500
Port Richmond	B	1953	5.2	10.0	3,000,000	Primary	-
*Richmond Memorial Hospital	A	1936	0.01	0.014	-	Septic Tank	-
*Saint Joseph's Home	A	-	0.004e	-	-	Septic Tank	300
*Willowbrook State Hospital	B	1941	0.3	6.0	-	Primary	4,000
<u>Rockland County</u>							
Haverstraw	A	1940	0.7	1.0	242,000	Primary	5,800
*Jewish Convalescent Home-Grandview	A	-	0.01	-	-	Septic Tank	100
*Lederle Laboratories**	A	1951+	1.2	1.0	1,000,000	Secondary	-
*Letchworth Village (Thiells)	A	1935+	0.35	0.8	57,000	Imhoff Tank	4,500
*New York State Rehabilitation Hospital (West Haverstraw)	A	1933	0.05	0.2	31,000	Imhoff Tank	300
Nyack	A	1940	0.7	1.0	100,000	Primary	5,800
Orangetown Sewer Dist. # 1 (Pearl River)	A	1952+	1.4	1.8	1,000,000	Secondary	3,600
Orangetown Sewer Dist. # 2 (Shanks Village)	A	1943	0.4	5.0	600,000	Imhoff Tank	2,500
Palisades Interstate Park Bear Mountain Plant	A	1951	Seasonal	0.3	77,000	Imhoff Tank	Seasonal
Piermont	A	1916	0.2	1.0	-	Imhoff Tank	1,800
South Nyack	A	1941	0.5	0.6	75,000	Primary	3,000
Upper Nyack	A	1953	0.05	0.1	75,000	Imhoff Tank	1,000
West Haverstraw	A	1936	0.2	0.4	30,000	Imhoff Tank	3,000

SEWAGE TREATMENT PLANTS
Discharging into the
INTERSTATE SANITATION DISTRICT WATERS

<u>Plant</u>	<u>Receiving Water Class</u>	<u>Date of Const.</u>	<u>F l o w MGD</u>		<u>Estimated Cost of Construction</u>	<u>Type of Treatment</u>	<u>Estimated Population Served</u>
<u>Average</u>	<u>Design</u>						
<u>NEW YORK (continued)</u>							
<u>Suffolk County</u>							
Huntington Sewer District	A	1933+	0.85	1.0	115,000	Primary	7,500
*Kings Park State Hospital (Smithtown)	A	1944+	2.0	2.0	270,000	Secondary	9,500
*Long Island Lighting Company (Port Jefferson)	A	-	0.001e	-	-	Septic Tank	-
Northport	A	1949+	0.25	0.5	35,000	Imhoff Tank	5,800
Port Jefferson Sewer District	A	1918	0.3	-	15,000	Primary	3,000
<u>Westchester County</u>							
*American Yacht Club (Rye)	A	-	0.004e	-	2,000	Septic Tank	300
Briarcliff Manor-River Road	A	1951+	0.001	0.75	20,000	Septic Tank	100
-Scarborough Dock	A	1926+	0.05	0.75	12,000	Septic Tank	500
*C.B.S.Transmitting Company (Little Pea Island)	A	-	0.001e	0.001	-	Septic Tank	-
Croton-on-Hudson	A	1951+	0.25	0.5	310,000	Primary	3,000
*F.D.R.Veterans Administration Hospital (Crugers)	A	1950	0.3	0.5	-	Primary	2,500
Irvington	A	1950	0.5	0.5	160,000	Primary	3,000
*Manursing Island Club (Rye)	A	-	0.004e	0.005	-	Septic Tank	300
New Rochelle	A	1955+	-	15.0	5,000,000	Primary	-
*New Rochelle Yacht Club	A	-	0.004e	0.005	-	Septic Tank	150
*N.Y.C.R.R. Harmon Shop (Croton)	A	1941	0.35	0.72	-	Primary	-
North Tarrytown	A	1940+	0.95	1.7	400,000	Primary	8,700
Ossining - Liberty Street	A	1939	0.2	0.5	32,000	Imhoff Tank	1,600
- Water Street	A	1940	1.0	2.0	150,000	Primary	14,400
Peekskill	A	1953	0.4	4.0	800,000	Primary	4,000
Port Chester	A	1945+	2.5	2.0	453,000	Imhoff Tank	23,000
*Shell Union Oil Co. (Mount Vernon)	A	1949	0.001	0.001	1,500	Septic Tank	35
*Shenerock Shore Club (Rye)	A	-	0.15e	0.02	-	Septic Tank	700
*Sing Sing State Prison (Ossining)	A	1950+	0.2	0.6	333,000	Primary	2,000
Tarrytown	A	1940+	0.9	1.5	340,000	Primary	8,800
*Westchester Country Club (Rye)	A	-	0.004e	-	-	Septic Tank	300
Blind Brook (Rye)	A	1928	1.05	12.0	1,430,000	Screening	9,500
Mamaroneck (Mamaroneck)	A	1931	10.0	42.0	5,840,000	Screening	64,000
North Yonkers (Yonkers)	A	1933	11.4	50.0	8,900,000	Screening	110,000
South Yonkers (Yonkers)	A	1931	27.9	84.0	8,559,000	Screening	259,000

* Private, institutional and industrial sewage treatment plants

** Discharges to Orangetown Sewer District # 1 (Pearl River)

+ Year of major additions or reconstruction

e Estimated

The Passaic Valley Treatment Plant has not been listed in previous reports, although the discharges from the plant are into waters under the jurisdiction of the Interstate Sanitation Commission.