

## Section VI—Abatement

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It now appears probable that at an early date adequate treatment of the sewage coming from New York City will be provided, if design and treatment plant construction that is now being vigorously advanced by the present city officials is continued. The city officials should be complimented for their foresight and courage in undertaking the work which is of very large proportions. The plans for providing adequate sewage treatment plants is based upon the investigations of various commissions and city departments which have been studying the New York Harbor waters at various times during a period of thirty years. These investigations showed conclusively that, in addition to local nuisances which were occurring in some of the constricted waterways, that most of the New York Harbor waters were being depleted of oxygen at a very rapid rate and further indicated that there is an upper limit to the capacity of these waters to receive sewage and that this upper limit has been practically reached.

It was therefore obvious that remedial measures must be undertaken by constructing adequate sewage treatment works in order to prevent the extension of the offensive condition of the waterways about the city.

It is to be hoped that other cities in the Interstate Sanitation District which are now discharging sewage into the various waterways will at an early date undertake the engineering studies which will be necessary for the purpose of constructing trunk sewers and sewage treatment works.

The abatement of the pollution of New York Harbor waters is a Herculean task in which the efforts of many official groups will be required before the conditions of the Harbor waters can be made satisfactory. Under the chapter entitled "Sewage Treat-

ment Plants" is given a brief description of the newly constructed Ward's Island plant which will treat the sewage from a large part of the Northern half of Manhattan borough and from the Southern and central portions of the borough of the Bronx. The construction of this plant is a great step forward as it will treat a large amount of sewage daily which originates in densely populated areas, and will remove the sewage from the portions of the Harlem and East Rivers where they have been most offensive and where the oxygen supply has been very low during recent years. This plant at the present time receives only about 40% of the sewage which in the future will flow to it for treatment and purification before being discharged into the East River. This is due to the fact that the construction of trunk and main collecting sewers is a slow and expensive job. Under the schedule of construction arranged by the Department of Sanitation, some of these trunk sewers will not be completed until near the end of 1938.

Among the plants which have been put in operation in the past two years is the Coney Island plant, to which a large amount of the sewage originating in the beach areas along the Atlantic Ocean is treated before being discharged into Rockaway Inlet.

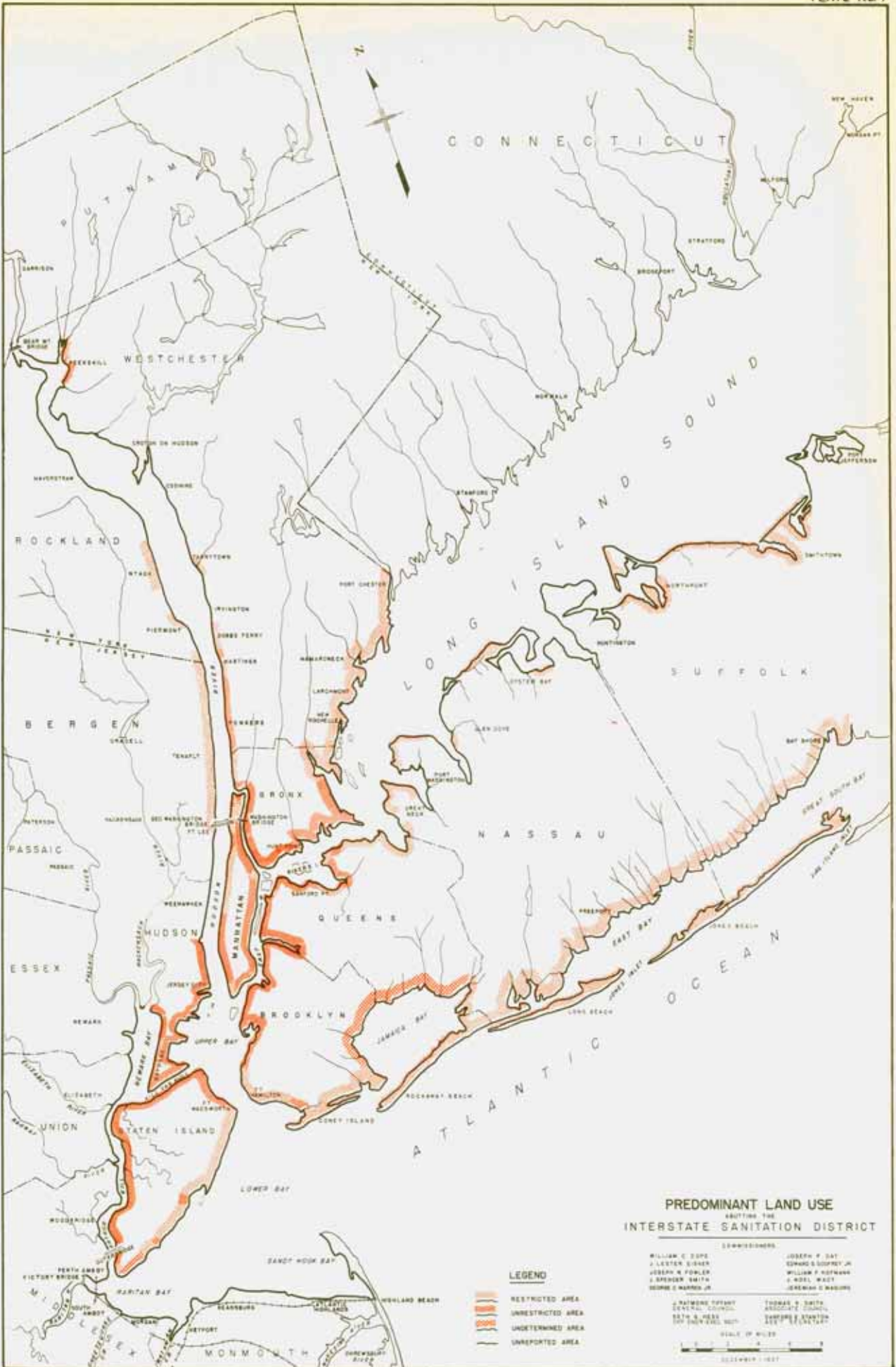
On Staten Island several small sewage treatment plants have been constructed to improve conditions on the local beaches. These plants receive the sewage from the Mount Loretto Home, the S. S. White Dental Laboratories and the Richmond Hospital. On Long Island a new sewage treatment plant has been constructed to serve the Kings Park State Hospital from which the effluent will flow into Long Island Sound. The sewage treatment plant at Freeport has been very largely reconstructed in order to improve the quality of effluent

discharged from it. In New Jersey, sewage treatment plants have been put in operation by the Joint Meeting which takes sewage from various municipalities in Essex and Union Counties, and also for the Rahway Valley Joint Meeting serving municipalities in Union County. The effluent from these plants will be discharged into Arthur Kill, which in the past has been in a very badly polluted condition. Putting these plants in operation should do much to improve the quality of the waters flowing in Arthur Kill. About a year ago, a sewage treatment plant was put in service at Perth Amboy, N. J., treating approximately ten million gallons of sewage which had been formerly discharged into the headwaters of Raritan Bay.

At the present time several plants in the New York City area are under construction. The largest of these will eventually treat

about 130,000,000 gallons of sewage from Jamaica and vicinity which is now discharged into Jamaica Bay. Another important plant under construction is at Tallmans Island which will treat the sewage from the northern portion of the borough of Queens. Also in the northern portion of Queens is the North Beach sewage treatment plant which is now being considered. On the other side of the East River a sewage treatment plant will be constructed at Orchard Beach in the early part of next year.

While construction proceeds at some of the sewage treatment plants, designs for other sewage treatment projects are being completed. Among these may be mentioned the 26th Ward sewage treatment plant, the City Island sewage treatment works, and the Port Richmond sewage treatment plant.

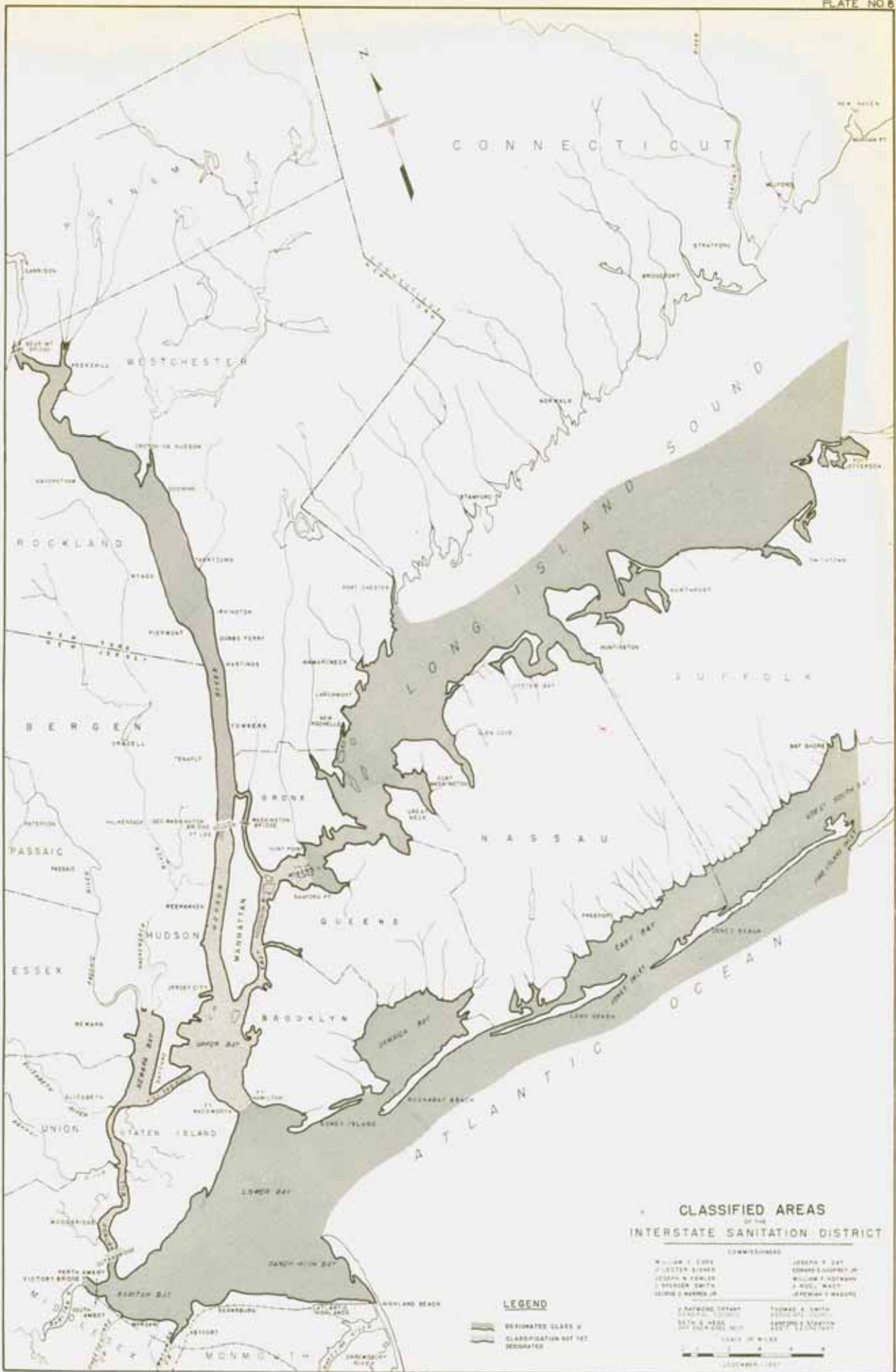


**PREDOMINANT LAND USE**  
 SHOWING THE  
**INTERSTATE SANITATION DISTRICT**

COMMISSIONERS  
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 J. LESTER FISHER      EDWARD S. GOSNEY, JR.  
 JOSEPH W. FOWLER      WILLIAM F. GORMAN  
 J. BREWER SMITH      J. ROEL WAST  
 GEORGE S. WARREN, JR.      JEREMIAH S. WASSING

J. PATRICK CURRAN      THOMAS S. SMITH  
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 RAY S. HENY      THOMAS F. EDWARDS  
 DONALD W. WELLS      IRVING F. GARDNER

SCALE OF MILES  
 0 1 2 3 4 5  
 OCTOBER 1, 1957



**CLASSIFIED AREAS**  
OF THE  
**INTERSTATE SANITATION DISTRICT**

COMMISSIONERS

- |                       |                       |
|-----------------------|-----------------------|
| WILLIAM C. EBBE       | JOSEPH P. SAT         |
| J. LESTER BROWN       | EDWARD S. LUDWIG, JR. |
| JOSEPH A. DEALE       | WILLIAM A. HOFFMANN   |
| J. SPENCER SMITH      | J. RUSSELL WAST       |
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| SEYMOUR H. HALL      | DAVID P. STARBUCK |
| JOHN J. FALGOUT, JR. | JOHN J. STARBUCK  |

**LEGEND**

- DESIGNATED CLASS A
- CLASSIFICATION NOT YET DETERMINED



## Section VII—Classification of Area

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### HEARINGS

The list showing the places where the Hearings were held, the date of the Hearing and the area covered by each Hearing has been set forth in Section I on pages 1 and 2.

### DESIGNATION OF CLASSIFICATION

At the meeting of the Commission on December 8th, formal resolutions were passed designating the classification of the areas of Long Island Sound, the south shore of Long Island, lower New York Bay, Raritan and Sandy Hook Bays.

There is shown herewith a map which indicates the areas which have been classified and the designation made by the Commission.

Having reviewed existing information concerning zoning and property surveys, conducted by other agencies, it became unquestionably apparent that there was not sufficient current or accurate information, concerning the present use of properties along the shores of the Interstate Sanitation District to permit an accurate determination of the predominant use of the area. Furthermore, it was deemed necessary to have incontestible evidence to support any future legal actions, which might have to be taken. In establishing the work to be undertaken by the Works Progress Administration Project sponsored by this Commission, a careful study was made and as a result, forms were prepared for field parties making this survey. These field parties visited all of the built-up shore line of the District and recorded the full information concerning the use of each piece of property. The information secured by these field parties includes the location of the property, the approximate frontage, the name of the owner, the name of the occupant, the use being made of the property and in addition

to that, information is obtained concerning the number, size and point of discharge of sewer outfalls or other points of pollution, in order to verify information obtained from other sources. From City records there is obtained the assessed land valuation and the value of improvements on the property. From this information, maps were prepared showing property use and dividing the use into operating, industrial or commercial, non-operating industrial or commercial, public property in use, public property vacant, public property-recreational, institutional property, residential property, private property-recreational, and private property vacant. The percentage of each type of property is then computed. This information furnished a sound basis upon which to premise our studies of the predominant use. It is recognized that the Compact considers only the predominant use of water area, but unquestionably, the use of the land area has a marked influence on the use of the water area. The use being made of the land area can be much more definitely ascertained and has been of immeasurable value to us in determining the use of the water area.

The District was divided into areas of common interest and use. A detailed report was submitted to the Commission upon the expected predominant use of each area. Each report also contained a summary of the testimony offered at each Hearing, extracts of communications and other relevant data to base conclusions upon classification. Maps were furnished showing the zoning ordinances affecting the use of shore property, data on shellfish areas and locations of parks, boat clubs, beaches and other recreational facilities.

Each report summarized the conclusions and contained a recommendation for designation of classification.

## Section VIII—Action Taken Towards Abatement

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At a meeting of December 8th, the Commission passed resolutions directing the Secretary to inform the State Departments of Health of the designation of the areas classified and to further request the cooperation of the Departments of Health in obtaining from the municipalities a schedule of the time when various steps would be taken toward the abatement of pollution. The four municipalities called upon to furnish a statement to the Commission are:

Glen Cove, New York  
Port Jefferson, New York  
Keansburg, New Jersey  
South Amboy, New Jersey

### ORDERS ISSUED

As outlined heretofore, the policy of the Commission at the present time, is to request the cooperation of the State Departments of Health in obtaining from the municipalities their proposed schedule for the time of taking various steps toward the abatement of pollution. It is proposed to give the municipalities an opportunity of indicating their intended action before the Commission takes any more formal steps in the matter of issuing orders or mandates.

Resolutions of this nature have been passed in connection with the four above mentioned municipalities.

## Section IX—Public Opinion

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### METHODS OF DISSEMINATING INFORMATION

One of the principal methods used in disseminating information to the public, concerning the activities of this Commission has been the daily press. The reports of the Hearings furnished an excellent opportunity of reporting to the press the purposes and activities of the Commission. Press representatives took the opportunity of making full use of the facilities offered and as a result, the following table shows the number of clippings, as well as the number of inches of space given by the daily press to each of the Hearings.

In addition to the news copy, the Commission has been able to obtain a number of favorable editorials. The total number of editorials during the past year in the metropolitan papers is 29. These represented 307 inches of space. Some of the more outstanding editorials are made a part of the Appendix of this report.

Special articles have appeared in the Sunday Supplements of the metropolitan newspapers, as a result of interviews which this Commission has invited and given. Each of the major New York Sunday newspapers has devoted at least one special article to this Commission in their Sunday Supplement. These articles appeared during the bathing season and were intimately connected with the recreational facilities within the metropolitan district.

Articles have been written for the technical press and have appeared in such magazines as, the American City, the Engineering News-Record and others.

The Commission was given the facilities of broadcasting an interview with its Chief Engineer, outlining the activities and purposes of this Commission. Two such fifteen minute broadcasts were made.

A number of talks, both formal and informal, have been made by members of the Commission and the staff at various functions, such as, the Long Island Section of the New York Sewage Works Association, Conferences called by the Supervisors of the Towns of Islip and Brookhaven in the Village of Port Jefferson.

The effect of this publicity has made the Interstate Sanitation Commission reasonably well-known within the Interstate Sanitation District and has made the public acquainted with the problems of sanitation. The Commission anticipates a more active program to acquaint the public with the effects of pollution and the benefits of sanitation during the coming year.

The accompanying Table on page 42, of this Section indicates the publicity received in connection with the various Hearings. We have also shown on the Table the number of press releases mailed, the number of notices and invitations issued, as well as the attendance at the Hearings. It is interesting to see that the greatest amount of publicity was obtained during the height of the bathing season, irrespective of the amount of advance notice given the Hearing, or the number of persons attending.

The Table on page 42 shows where the greatest newspaper publicity was obtained. Very much more publicity was received in New York State than in New Jersey; and New York City afforded the Commission a greater amount of publicity than any county.

Newspaper editorials are usually considered excellent means of judging public opinion, therefore we have listed the more important editorials referring directly to the work of the Commission. Again it should be noticed that more editorials appear during the bathing months of July and August

than any of the other months. This is illustrated by Tables on page 43.

The accompanying chart on page 44 shows graphically the amount of publicity received each month.

## 1937—PUBLIC HEARINGS ON CLASSIFICATION—1937

<i>Date</i>	<i>Place</i>	<i>Number of Press Releases</i>	<i>Notices and Invitations Issued</i>	<i>Attendance</i>	<i>Testifying Representatives</i>	<i>Number of Communications Received</i>	<i>Press Clippings</i>	<i>Inches</i>
Mch. 30	Bayonne, N. J.	24	210	65	5	1	3	47
Mch. 31	West New Brighton, S. I.	24	175	45	11	1	2	88
Apr. 21	Elizabeth, N. J.	64	100	26	10	2	7	64
Apr. 28	Perth Amboy, N. J.	80	190	23	6	0	10	52
May 19	New York, N. Y.	80	110	50	18	4	33	243
May 25	Newark, N. J.	40	106	30	7	5	12	80
June 9	White Plains, N. Y.	40	104	25	7	2	17	114
June 23	Long Island City, N. Y.	40	115	25	12	4	15	113
July 8	Yonkers, N. Y.	45	105	35	18	8	18	233
July 14	Mineola, N. Y.	40	118	25	9	3	21	237
July 21	Keansburg, N. J.	94	86	25	10	3	4	37
July 28	Huntington, N. Y.	47	147	45	21	26	29	299
Aug. 10	Nyack, N. Y.	94	170	18	6	4	6	44
Aug. 18	Brooklyn, N. Y.	50	150	75	17	6	13	183
Sept. 8	Queens, N. Y.	100	235	35	14	8	13	119
Sept. 22	Jersey City, N. J.	100	400	25	3	3	5	36
	<b>Totals</b>	<b>962</b>	<b>2521</b>	<b>572</b>	<b>174</b>	<b>79</b>	<b>208</b>	<b>1989</b>

## 1937—PUBLICITY—1937

## NEW YORK STATE

<i>Counties</i>	<i>Inches</i>
Erie	3
Nassau	206
New York	1698
Oneida	13
Onandaga	4
Rockland	68
Suffolk	388
Westchester	691
	<b>—3071 Inches</b>

## NEW JERSEY

<i>Counties</i>	<i>Inches</i>
Atlantic	11
Bergen	32
Essex	136
Hudson	147
Mercer	33
Middlesex	95
Monmouth	71
Passaic	29
Union	30
	<b>— 584 Inches</b>
<b>Total</b>	<b>3655 Inches</b>



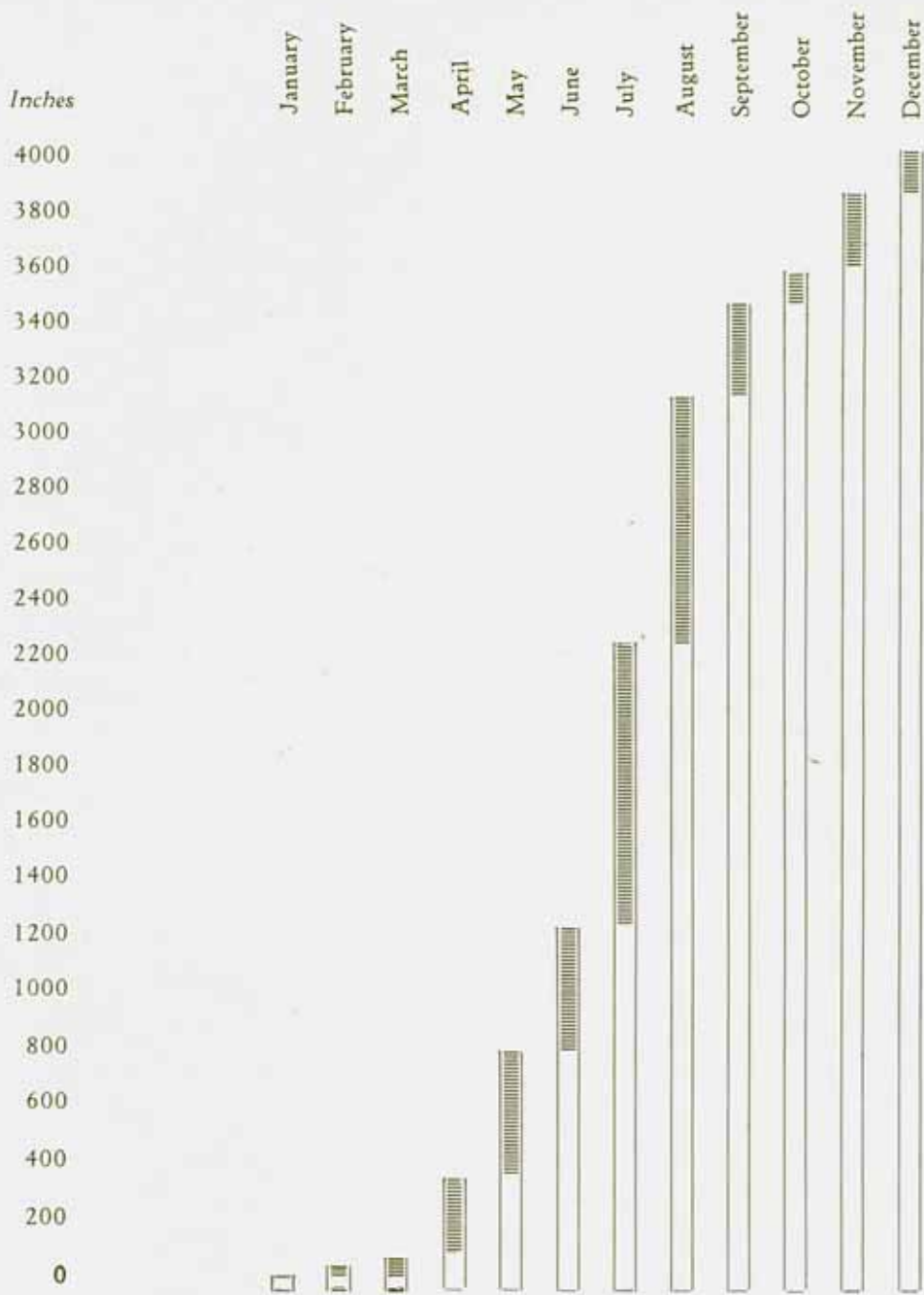
## 1937—PUBLICITY—1937

## NEWSPAPER EDITORIALS

<i>Publication</i>	<i>Date</i>	<i>Title</i>	<i>Inches</i>
Elizabeth, N. J., Journal	Apr. 24	"The Pollution Problem"	8
Perth Amboy, N. J., News	May 15	"Anti-Pollution Progress"	9½
Red Bank, N. J., Standard	May 19	"Pollution Must Be Ended"	5
Hackensack, N. J., Bergen Record	May 27	"Sewerage"	11
Brooklyn, N. Y., Times-Union	May 28	"For Cleaner Waters"	12
Hoboken, N. J., Observer	June 1	"Newark Bay Pollution"	3½
Newark, N. J., News	June 2	"Problems of Pollution"	11
Staten Island, N. Y., Advance	June 4	"Mt. Loretto Follows Suit"	8
New York, N. Y., Herald-Tribune	June 11	"For Cleaner Waters"	5
New York, N. Y., Daily News	June 11	"Hudson Polluted"	14
Dobbs Ferry, N. Y., Sentinel	June 11	"Hudson Polluted"	7
Yonkers, N. Y., Herald-Statesman	June 12	"Pollution"	17
Yonkers, N. Y., Herald-Statesman	June 12	"Naming Names"	8
Flushing, N. Y., North Shore Journal	June 28	"Pollution"	4
Jamaica, N. Y., L. I. Daily Press	June 28	"Clean-up Is a Big Task"	9
Yonkers, N. Y., Herald-Statesman	July 2	"New Sewage Systems"	17
Yonkers, N. Y., Herald-Statesman	July 7	"Bathing Beaches On Our Waterfront"	24
Jamaica, N. Y., L. I. Daily Press	July 15	"Save The Beaches"	14
New Rochelle, N. Y., Standard Star	July 21	"Clean Waters"	7½
Jamaica, N. Y., L. I. Daily Press	July 29	"Beach Pollution Drive"	6
Sea Cliff, N. Y., News	July 30	"Hope Revives"	10
Nyack, N. Y., Journal News	Aug. 12	"Rockland Will Help"	18
Paterson, N. J., Call	Aug. 19	"Cleaning Up New York Bay"	6
Brooklyn, N. Y., Eagle	Aug. 20	"Clearing Way For New Beaches"	10
New York, N. Y., Daily News	Aug. 21	"Moses Wants More Parks"	26
Newark, N. J., News	Aug. 23	"Good Work Goes On"	10
Westhampton, N. Y., Weekly Chronicle	Aug. 27	"The County Health Dept."	8
Brooklyn, N. Y., Eagle	Sept. 11	"Zoning Borough Waters"	9
Jamaica, N. Y., L. I. Daily Press	Nov. 6	"Polluted Waters Can Be Purified"	10
Total: 29 Editorials			307½

ANNUAL REPORT

1937—PUBLICITY—1937



## Section X—Works Progress Administration Project

### POLLUTION SURVEY

During the past year through the Works Progress Administration Project sponsored by the Interstate Sanitation Commission, a sanitary survey of the waters in the Interstate Sanitation District has been under way and at the present time is partly completed. This survey is Project No. 465-97-3-131 (old No. 165-97-6999). The main objective of this work is to obtain data relative to the use of property along the shore line and to obtain data as to the location of municipal and private sewer outlets and of other pollutions, such as manufacturing wastes.

While the survey is incomplete, enough information has been obtained to show the widespread character of the pollution entering the harbor waters. In order to illustrate what the survey has disclosed in specific localities, the following discussion of several of them is included.

Along the Kill van Kull a little more than 38,000 feet of water frontage were inspected. This included 3.22 miles of coast line in New Jersey and 4.04 miles in New York State, or a total of 7.26 miles of shore line.

The results of this particular survey, are that while available office records indicated that there were only five (5) sewer outlets along the shore, a total of seventy (70) of them were found. This indicates the character of the work that must be done in order to remove all of the raw polluting material from waters. Not only the wastes from public sewers must be collected and properly treated, but also wastes that are discharged from very many private sewers over which the City may not have control and also from the discharge of the manufacturing or trade wastes. The trade wastes may be in many instances, special problems,

as under certain conditions it is not wise to take them into a common municipal sewer. In such a case it is necessary to find a satisfactory method of treating the wastes, which often requires research. The trade wastes, even from the same kind of factory, may differ widely as to the chemicals or material contained in the sewage that flows into the waterways.

A sample copy of data sheet used in making this survey is given below.

### KILL VAN KULL SHORE LINE

	<i>New York State</i>	<i>New Jersey</i>
Length of Shore Line		
inspected	21,387 feet	17,000 feet
Occupied for Industrial Use	12,017 "	9,550 "
Residential	1,720 "	"
Public Recreation	150 "	1,300 "
Publicly owned Property	1,500 "	350 "
Institutions	2,400 "	"
Vacant	3,600 "	5,900 "
	<u>21,387 feet</u>	<u>17,100 feet</u>

	<i>New York State</i>	<i>New Jersey</i>	<i>Total</i>
Number of City Sewers	23	6	29
Number of Private Sewers	30	11	41
Total	<u>53</u>	<u>17</u>	<u>70</u>
Number of Polluted Creeks	2	2	4

During the course of the survey, several badly polluted sections of the waterways were found. Of the Kill van Kull, it can be said that a great amount of sewage and trade wastes are discharged directly into it or into open creeks or brooks which are tributaries. Along the portion of the shore not filled out to the bulkhead line, there are extensive sludge banks which give off offensive odors, particularly during the summer, at low tide.

On the interior of Staten Island, it is reported that there are several hospitals and private institutions, the sewage from which is discharged directly into Fresh Kill or its tributaries from which it flows into Arthur Kill.

At City Island the sewage flows directly into Eastchester Bay or Long Island Sound. In the survey of this area along approximately six and one-half miles of the shore, 147 sewer outlets were found. This would indicate that the average distance between outlets was about 200 feet, and, therefore, none of the surrounding waters could be considered as free from sewage pollution of local origin.

Other badly polluted sections of the harbor waters which are offensive during the summer months are mentioned as parts of the Harlem River, Pugley's Creek, Westchester Creek, Newtown Creek and Gowanus Bay and Canal. Some of these may be considered as open sewers due to the large amount of pollution that is entering them.

Up to the present time approximately 700 miles of shore line out of a total of 850 miles have been inspected. The large amount of data that has been obtained is rapidly being put into a form, where it may be readily used and should be of great assistance to municipalities in removing unsanitary conditions in the future.

#### SURVEY OF ECONOMIC DAMAGE

When sewage and trade wastes are discharged into any body of water in such quantities that they impair the quality of the natural waters, a large amount of damage is incurred by people residing nearby, who use waters for almost any purpose. The amount of the damages is often very difficult to evaluate. Much of the damage resulting from pollution comes from a psychological reaction of the people to the environment, as for example, one may move

from desirable dwellings because the nearby waters are polluted to such an extent as to cause conditions which are offensive to the people. Therefore, while the property itself may not have changed materially, the value of it may be markedly decreased, due to the above cause.

Property along waterways are often used as pleasure resorts, bathing beaches, boating centers for passenger traffic or innumerable other purposes, all of which uses may be adversely affected by pollution. Bay or tidal waters can be used for the growing of shellfish and this business may be entirely destroyed when sewage is discharged into them, as it makes it possible for disease to be transmitted by shellfish when eaten in a raw condition. Under such conditions health authorities would prohibit the taking of shellfish from the waters for human consumption. In the past, serious economic losses have been caused in these ways.

In an attempt to arrive at the amount of some of these damages in a few typical cases, the workers on the survey project have been studying the loss of business at a large amusement park, where, at the present time, the building stands practically unoccupied during the summer months although in the past it is reported that large groups flocked to the area for amusement and bathing purposes.

It is reported that the weekly income dropped from \$90,000 during the period before the pollution was excessive to approximately \$2,000 during the summer months. It is further reported that this is due almost entirely to the ban placed upon bathing and adjacent harbor waters, by Health Officials.

At the present time these studies have not been completed, but it is hoped that they will be of considerable value when completed as showing an isolated case of monetary losses resulting from excessive sewage pollution in natural waterways.

INTERSTATE SANITATION COMMISSION

SEWER OUTLET SURVEY

Water Boundary

KILL VAN KULL

Sheet No.: 1.

State: New Jersey.

County: Hudson.

Municipality: Bayonne.

Survey No.: 1.

Date: 3-9-37.

Observer: Davis.

Location	Effluent	Dimens.	Material	Point of Discharge	Tide Level	Flow Depth	Discoloration	
							Area—Sq. Ft.	Color
1 On Hook Road	Private Combined	24"	C. I. Pipe	A. L. W. Bulkhead	-30 L. W.	1/2	10,000	Grey & Brown
2 Standard Oil Co. Yd. No. 1	Industrial	24"	C. I. Pipe	A. L. W. Bulkhead	-30 L. W.	1/4	1,000	Grey & Brown
3 On Hook Road (Standard)	Priv. Sanit. Combined Industrial	24"	C. I. Pipe	A. L. W. Bulkhead	-1 hr. L. W.	Full	40,000	Grey & Brown
4 Oil Co. Marine Yard No. 2	City Sanitary	24"	C. I. Pipe	A. L. W. Bulkhead 75' from Shore Line	-1 hr. L. W.	Not Obs.	None	None
5 Foot of Newman St.	City Sanitary	24"	C. I. Pipe	Shore Line 75' from	-2 hr. L. W.	Not Obs.	None	None
6 Foot of Newman St.	Sanitary	72"	Concrete	Shore Line	-2 hr. L. W.	Not Obs.	None	None

Survey No.: 1.

INTERSTATE SANITATION COMMISSION  
SEWER OUTLET SURVEY  
Water Boundary  
KILL VAN KULL

Sheet No.: 1.

	Visible Solids	Oil Film Area	Odors	Remarks
1	Slight	Slight	Slight	Source of Pollution
2	Slight	Slight	Slight	None
3	Excessive	Slight	Excessive	Very Bad Source of Pollution
4	None	None	None	None
5	None	None	None	None
6	None	None	None	None

Sheet No. 1.

U. S. WORKS PROGRESS ADMINISTRATION

Survey No. 1.

PROJECT 165-97-6999 (6137-1214)

PROPERTY SURVEY

WATER BOUNDARY—KILL VAN KULL

Property Use	Sewer or Drain Outlets		Shore Line Description	Protection Distance	Remarks
	Number	Pt. Disch.			
1 Oper. Ind. Com. Oil Storage	None		Bulkhead	1200'	Have Separators and Water-front Patrol.
2 Oper. Ind. Com. Oil Refining	4 Private	A. L. W. Bulkhead	Bulkhead	3625'	Separators and Boom System, Waterfront Patrol.
3 Private Recreational. Boat Club	None		Bulkhead	150'	None
4 Institutional Boat Club	1 Private	B. L. W. Bulkhead	Bulkhead	300'	None
5 Oper. Ind. Com. Manufacture of Bolts	1 Private 1 City	B. L. W. Bulkhead	Bulkhead	300'	Heavy Sludge on Shoreline
6 City Owned Recreation Beach	2 City	B. L. W. 75' from Shore	Bulkhead	550'	None
7 Private Residential	2 City	B. L. W. 75' from Shore	Bulkhead	1300'	Complaints of Gaseous Odors
8 City Owned, Vacant	None		Bulkhead	200'	None
9 Private, Vacant	None		Natural	100'	None

INTERSTATE SANITATION COMMISSION

PROPERTY SURVEY

Water Boundary

State: New Jersey

County: Hudson

Municipality: Bayonne

Survey No.: 1.

Date: 3-9-37

Observer: Davis

Location		Frontage	Owner	Occupant	Assessed Valuation	
From	To				Land	Bldgs.
1 Bergen Pt.	Ave. A	1200'	Texas Co.	Same	\$150,000	\$75,000
2 On W. 22d St.		3625'	Stand. Oil Co.	Same	200,000	300,000
3 Rathbun	Trash St.	150'	Bayonne Yacht Club	Same	100,000	45,000
4 Trash St.	Humphrey St.	300'	Stevens Tech.	Same	15,000	15,000
5 Humphrey St.	Newman St.	300'	Bayonne Bolt Corp.	Same	75,000	90,000
6 Newman St.	Ave. C	550'	City of Bayonne	Same	80,000	110,000
7 Ave. C	Lexington Ave.	1300'	S. Palfrey	Same	90,000	80,000
8 Lexington Ave.	Hobart St.	200'	City of Bayonne	Vacant	10,000	75,000
9 Hobart St.	Ingham St.	150'	Stand. Oil Co.	Vacant	6,000	30,000



DISSOLVED OXYGEN IN HARBOR WATERS

As part of the above mentioned project, under the Works Progress Administration, there has also been carried forward during the summer months a series of analysis

showing the amount of dissolved oxygen in various parts of the waters in the Interstate Sanitation District. This work began in the latter part of July and was continued into October. The result of this work is given in the following table:

PERCENT OF SATURATION OF DISSOLVED OXYGEN IN THE WATERS OF THE INTERSTATE SANITATION DISTRICT 1937—JULY TO OCTOBER

Portion of District	Location	Low Observation		High Observation		Remarks
		Date	%	Date	%	
Hudson River	Pier A	8/31	26	10/19	59	50' from shore
	14th St.	8/10				
		8/25	27	8/18	48	50' from shore
	42nd St.	8/11	18	8/18	44	100' from shore
	125th St.	8/10	20	8/18	62	100' from shore
	Spuyten Duyvil	8/10	26	8/17	92	Outside bridge
	Mt. St. Vincent	8/27	29	8/13	85	250' off shore
	Yonkers	8/27	29	8/13	86	150' off shore
	Hastings	8/27	46	8/17	91	200' off shore
	Dobbs Ferry	8/27	47	8/13	91	200' off shore
	Irvington	8/27	56	8/13	87	300' off shore
	Tarrytown	8/27	64	8/13	94	400' off shore
	Ossining	8/27	72	8/17	95	400' off shore
	Croton Point	8/30	74	8/13	93	400' off shore
	Indian Point	8/27	66	8/30	69	
	Bear Mt.	8/30	67	8/27	74	N. J. side
	Hoboken	10/18	51			N. J. side
Harlem River	Alpine			10/18	86	N. J. side
	Willis Ave.	8/10	1	8/18	16	
	155th St.	8/31	3	8/11	49	
	High Bridge	8/31	2	8/11	46	{ 1/2 Way to Washington Br.
East River	Sherman Creek	8/18	1	8/11	42	
		8/31				
	Spuyten Duyvil	8/11	25	8/31	51	Inside bridge
	Pier 10	8/31	11	9/14	52	100' off shore
	Wallabout Basin	8/31	5	9/14	44	Mouth
	23rd St.	8/31	7	9/14	29	100' off shore
	42nd St.	8/31	8	9/14	35	50' off shore
	106th St.	8/31	3	8/25	24	
	Whitestone Pt.	8/25	28	7/22	70	200' off shore
	Flushing Bay	7/31	9			
	Flushing Bay			8/11	74	Buoy No. 4
	Hell Gate	8/7	13	9/14	28	
	Eastchester Bay	7/28	32	8/10	83	
	Pelham Bay	8/18	45	8/17	96	
	Riker's Island	7/31	8	9/14	62	North Channel
	Classon Point	7/28	16	7/22	52	
	Riker's Island	7/28	9	7/22	42	South Channel
Fort Totten	8/20	23	8/20			
			7/22	57	100' off shore	
Raritan Bay	1/2 Way between Ft. Totten and Ft. Schuyler	9/1	29	7/22	82	
	Ft. Schuyler	7/28	28	7/22	71	
	Manhasset	8/24	42	8/20	96	
	(various)	7/14	64	7/14	94	
Lower Bay	New Dorp	7/12	58	10/5	84	
	Midland Beach	10/7	68	7/12	91	
Arthur Kill	(various)	7/19	43	7/19	54	

Only the low and high observations of the percentage of dissolved oxygen in the waters are given, as the small number of samples collected in particular locations make an average figure unreliable. The work appears to agree with the data obtained by other groups, which have been, in the past years, making similar determinations in the Harbor waters.

As only a small number of samples was obtained at some points, the above data may be materially changed in succeeding years, as this annual work is continued. After two or three years, sufficient data will be collected for more definite conclusions concerning the minimum and average dissolved oxygen contents of the waters at various localities. These analyses were made on water taken about five feet below the surface and usually some distance from the adjacent shore line.

The waterways included in the survey were: the Hudson River, from the Battery to Bear Mountain; Long Island Sound from Glen Cove to the East River; the East River; Harlem River; Upper New York Bay; Arthur Kill and the Raritan, Sandy Hook and Lower New York Bays.

#### CURRENT SURVEY

The effect of the pollution in Newark Bay upon Overpeck Creek was raised at the public hearing held in Newark, New Jersey.

The Director of the New Jersey State Department of Health requested the cooperation of this Commission in determining the degree, if any, to which Newark Bay waters flood into Overpeck Creek, and suggested the cooperation of that Department in a Works Progress Administration project for the study.

The project sponsored by this Commission already contemplated surveys upon the effects of pollution and it was therefore deemed unnecessary to apply for a separate project for this study. This Commission, the New Jersey Department of Health, and

the Works Progress Administration project cooperated in a detailed study of the problem. It was jointly determined that data should be obtained to determine float progress and chemical and bacteriological analyses of the water.

The down stream float study provided for depositing a float at the upper end of Overpeck Creek at high tide and following it continuously for 72 hours, taking water samples periodically at the float.

Upstream float study provided for placing a float at the mouth of the Hackensack River and following it upstream for three flood-tide movements removing the float at full high tide and again replacing it at the position from which it was removed at low tide. The float was thereby followed upstream for three incoming flood-tide movements. Throughout this study water samples were taken periodically at the float.

Velocity studies were made for the purpose of determining the quantity of flow in the upper Overpeck Creek, as well as at a station near its confluence with the Hackensack River. Periodically water samples were also taken during the studies.

The details and results of these studies will be included in the Works Progress Administration report to this Commission and used in connection with the report upon the determination of classification of the water of Newark Bay.

We wish to acknowledge our appreciation of the close cooperation which we received from the New Jersey State Department of Health. Their representatives took active parts in the accumulation of field data and water sample analyses were run in the Trenton laboratories. Dissolved oxygen determinations, however, were made in the field using the Commission's portable laboratory apparatus.

We have developed several unique operations in connection with the work done under the project. These are summarized but will be reported in greater detail at a later date.

## DISSOLVED OXYGEN SAMPLES

It has been customary to take dissolved oxygen samples in a double container at the end of a rope or chain dropped overboard. This procedure usually necessitates stopping a boat whenever a sample is taken. In place of this procedure a hand-operated rotary pump was mounted on the boat and a pre-determined length of suction hose adequately weighted was installed to carry the suction to the proper depth for sampling. Experiments indicated that the suction required to lift the water did not change the oxygen content in the short period of time that the water was being carried through the pump. The pump is, of course, adequately flushed before the sample is taken, so that all entrained air was removed. Parallel runs using this apparatus and the usual sampling method indicate that the pump furnishes a satisfactory sample for dissolved oxygen analysis. However, the work has not yet

progressed sufficiently to warrant adopting this method of sampling without the standard method as a control.

The advantages of the pump are ease of operation and the ability to take samples in swift currents and while a boat is in motion.

## TURBIDITY

Some work was done to determine if turbidity could be used as a rough measure of pollution. A modification of the usual pin method was adopted and was found to give reasonably uniform results.

## DISSOLVED OXYGEN LABORATORY

A portable laboratory was developed to permit dissolved oxygen determinations in the field. The carrying case was similar in many respects to that used by the New York State Department of Health.

## Section XI—Recommendations

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1. An amendment of the laws of the State of New York to permit the Director of the Division of Sanitation to be designated to serve on this Commission, either as proxy for, or in the place of, the Commissioner of Health.
2. An amendment in the law in the State of New Jersey to admit of the appro-

priation of more than \$15,000 for the appropriation of the Interstate Sanitation Commission.

### Summary

A Summary of this report will be found on the sheet preceding Section I.